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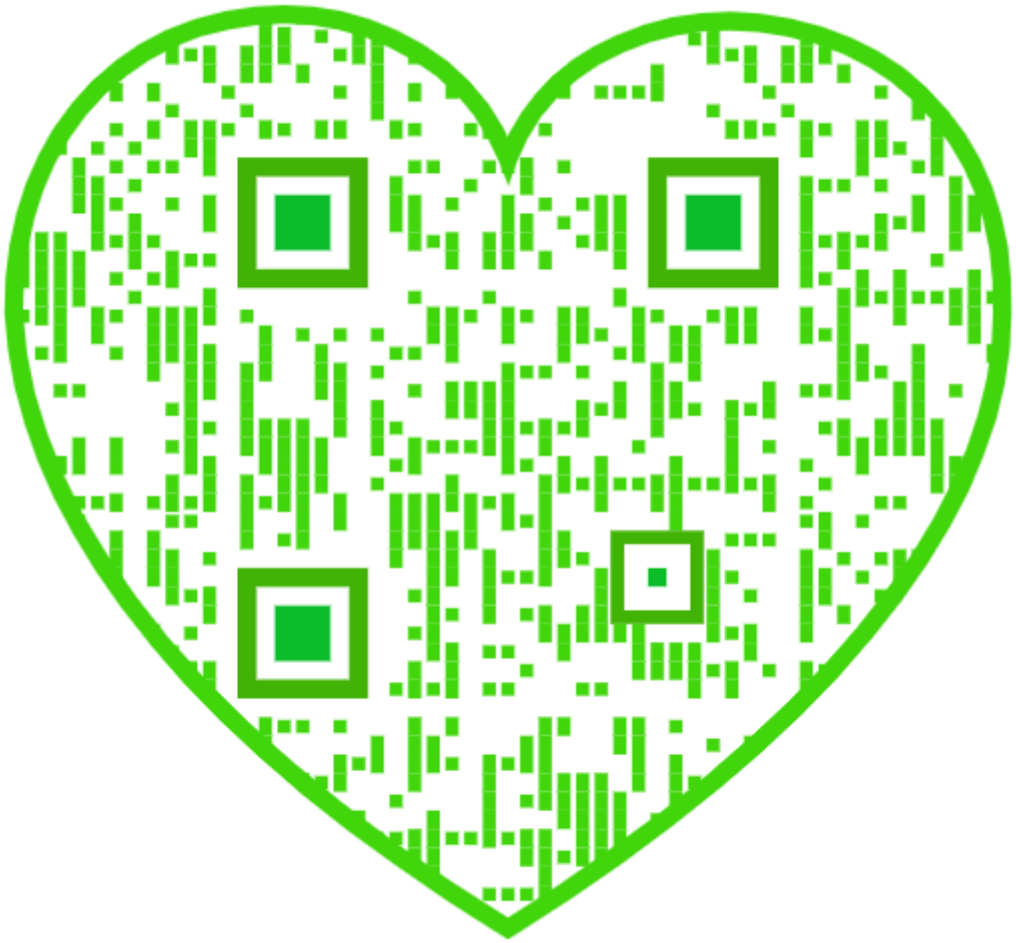

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UNITED STATES OF AMERICA.

A NEW TREATISE

—ON—

THE DISEASES AND LAMENESS

—OF THE—

HORSE,

—AND—

HOW TO CURE THEM.

ALSO,

The Proper Method of Shoeing Horses,

—AND A—

Complete List of Veterinary Medicines.

BY CHARLES SMITH, V. S.

BINGHAMTON, N. Y.
Malette & Reid, 98 Water Street.
1873.

act intelligently in an emergency, than he who simply seeks the readiest mode of relief for his own Horse when attacked by illness or suffering from accident.

At the same time many horse owners are unable, for various reasons, to procure the services of the Surgeon at the time when they are most needed. To those this book is offered as a trustworthy guide. The author has aimed to be brief, yet practical, and to give fully the symptoms which indicate every disease which horse-flesh is heir to. He has also striven to put his book in language easily comprehended, using the common names of remedies, in preference to their scientific terms, and giving in all cases the simplest and readiest modes of application. In short, he trusts that he has succeeded in putting before the horse owner a book which he will find suitable for every-day use, and which he hopes will be the means of preventing or alleviating much suffering of that noble animal which serves Man so faithfully and so well, and whose labors end only with his death.

CHARLES SMITH, V. S.

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DISEASES OF THE HORSE.

CHAPTER I.

Diseases of the Skull, the Brain, the Ears and the Eyes.

COMPRESSION OF THE BRAIN.

CYSTS, containing a serous or viscid fluid, are found within the cranial cavity and lying upon or imbedded in the Brain, and cause the disease known as "Compression of the Brain."

SYMPTOMS.

The horse shakes his head, carries it low and inclined to one side or the other, staggers as he walks, and the motion of his limbs is marked by

a peculiar convulsive action. In some cases he falls down, lies a few minutes, gets up again and commences eating.

TREATMENT.

Put three or four ounces of chlorinated lime into a basin or other suitable vessel, hold the basin under the horse's head and pour into it three ounces of sulphuric acid and let the patient inhale the gas. If he shows symptoms of coughing and choking withdraw the vessel for a few minutes and then apply it again. Repeat the application for two or three days and the cure will be complete.

——:o:——

STOMACH STAGGERS.

Apoplexy is a determination of blood to the head, and the cause is the over-condition of the animal and too great fulness of blood. It was formerly much more common when it was customary to keep horses exceedingly fat; overwork them, and then suffer them to eat voraciously until their stomachs were preternaturally distended. Farmers formerly kept their horses at the plough six or eight hours and then suffered them to gorge themselves at will. The consequence was that farmers' horses were notoriously subject to fits of heaviness and sleepiness, to staggers or partial attacks of staggers, and from the frequent

pressure on the optic nerve and other parts, caused by oppression of the brain, they frequently became blind. Hard-worked and half-starved animals on being turned into rich pastures are sometimes attacked. If the weather is hot the sympathy of the brain with the undue labor of the stomach is more easily excited and a determination of blood to the brain more readily effected.

SYMPTOMS.

The malady is first recognized by the horse standing with his head depressed and bearing upon or forced against the manger or wall, with a considerable part of his weight evidently supported by this pressure of the head. As he thus stands he balances himself from side to side as if about to fall, and it is often dangerous to stand near him, or to move him, for he falls without warning. If he can get his muzzle into a corner he will sometimes continue there motionless for a considerable time, and then drops as if he were shot, but the next moment he is up again with his feet almost in the rack. He sleeps, or seems to do so, as he stands, and is nearly or quite unconscious of surrounding objects. When he is roused he looks vacantly around, sometimes taking a lock of hay if offered to him, but before it is half masticated the eye closes and he sleeps again, with the food in his mouth. Soon afterwards he is per-

haps roused once more, the eye opens, but it has an unmeaning glare, the hand is moved before it but it closes, and when spoken to he hears not. The last act of voluntary motion which he will attempt is usually to drink, but he has little power over the muscles of swallowing, and the fluid returns through the nostrils. He now begins to foam at the mouth, his breathing is laborious and loud, and is performed by the influence of the organic nerves, and those of animal life no longer lend their aid ; the pulse is slow and oppressed, the jugular vein is distended almost to bursting, the muzzle is cold, and the discharge of the faeces involuntary ; he grinds his teeth ; twitchings steal over his face and attack his limbs, sometimes ending in dreadful convulsions, in which the horse beats himself about in a terrible manner ; but there is rarely a disposition to do mischief. In the greater number of cases these convulsions last but a short time. All the powers of life are oppressed, and death speedily closes the scene.

TREATMENT.

Whatever be the cause of the disease, bleeding is the first measure needed for treatment of staggers ; the overloaded vessels of the brain must be relieved. The jugular vein should be immediately opened—it is easily got at, as it is large. The blood may be drawn from it in a full stream, and it being also the vessel through which the blood is returned from the head, the greater part of the

quantity obtained will be taken immediately from the overloaded organ, and will therefore be most likely to produce the desired effect. The quantity of blood drawn should be about five or six quarts, according to the condition of the patient. He should have a dose of the following physic administered in a drench :

Barbadoes Aloes	6 drachms.
Ginger	2 "
Linseed Oil	½ pint.
Sulphuric Ether	1 ounce.
Laudanum	1 "

After the physic is taken have cloths dipped in cold water and applied to the head. The after treatment must be regulated by circumstances; for some time the horse should be put on a restricted diet, mashes should be given, and green food in small quantity only ; a moderate allowance of hay, and very little grain. When sufficiently recovered he may be turned out with advantage on rather bare pasture. One circumstance however should never be forgotten : that the horse who has once been attacked with staggers is liable to a return of the complaint from causes that otherwise would not affect him, the distended vessels are weakened, the constitution is impaired, and prudence would dictate that such an animal should be disposed of soon as possible.

———:o:———

MEGRIMS.

This is another kind of pressure on the brain, resulting from an unusual determination or flow of blood to it, from various causes, of which the most common is violent exercise, while the horse is fat and full of blood, in that case more than the usual quantity being sent to the head. Sometimes it is caused by the harness—as where the collar is too small or the curb-rein too tight, the blood is prevented from returning from the head. The larger vessels of the brain will then be too long and injuriously distended, and (what is of more consequence) the small vessels that permeate the substance of the brain will be enlarged, and the bulk of the brain increased so that it will press upon the origins of the nerves and produce, almost without warning, loss of power and consciousness.

SYMPTOMS.

When the horse is driven rather quickly he will without any premonitory symptoms suddenly stop, shake his head and exhibit evident giddiness and half-unconsciousness. This will soon pass over and he will go on as if nothing had happened. When the attack is more serious he will fall without the slightest warning, or suddenly run round in a circle once or twice and then fall, and will either lie insensible or struggle with the utmost

violence. In five or ten minutes he will begin gradually to come to himself, and will get up and proceed with his work, yet appearing somewhat dull, and evidently much exhausted by the attack, although not seriously or permanently ill.

TREATMENT.

When you get him home four quarts of blood should be taken from the neck vein and the following administered :

Barbadoes Aloes	6 drachms.
Ginger	2 "
Gentian	2 "
Linseed Oil	½ pint.

(To be given in one dose.)

He should have the chill taken off his water for two or three days, when cold water may be given. If the horse can be spared the quantity of dry food should be lessened and mashes given, or he should have a run at grass. A predisposition to a second attack almost always remains, and it is a long time before the blood vessels recover their tone. Experience has shown that a horse that has had a second attack of the Megrims is never to be trusted.

———:o:———

INFLAMMATION OF THE BRAIN.

Inflammation of the brain or its membranes, or both, sometimes occurs, and of the membranes oftenest when both are not involved. The symp-

toms are almost precisely those of apoplexy, except that the phrenetic horse is not quite so lethargic; he sees a little better, will shrink more from the whip, and the disease runs its course more rapidly. In apoplexy, from distention of the stomach, twenty-four or thirty-six hours will elapse before a cure, rupture of the stomach, or the destruction of the horse. If it proceeds merely from an oppression of the digestive organs and the sympathy which subsists between the stomach and brain, it may run on for two or three days, but the apoplexy of the phrenetic horse will often run its course in a few hours.

SYMPTOMS.

The animal whirls round and round, and plunges and falls, he seizes his clothing and rends it in pieces, and is perhaps destitute of feeling and of consciousness. He bites and tears himself, darting furiously at everything within his reach, but no intelligence seems to mingle with or govern his fury. These attacks and remissions continue for an uncertain period, until if not relieved he becomes unable to rise, and lies panting and foaming till at length, completely exhausted, he dies.

TREATMENT.

Bleed from the neck vein, take about 5 quarts, then give this dose of purgative medicine:

Aloes	8 drachms.
Ginger	2 "
Linseed Oil	½ pint.
Ether	1 ounce.
Laudanum	1 "

Shake together in a bottle and give as a drink ; then apply a blister under the mane and on both sides, and apply cloths dipped in cold water to the top of the head.

———:o:———

RABIES OR MADNESS.

This is another and fearful disease of the nervous system ; it results from the bite of a rabid animal, and most commonly of the companion and friend of the horse, the coach dog.

SYMPTOMS.

The earliest and perhaps the most decisive symptom of the near approach of rabies in a horse is a spasmodic movement of the upper lip, particularly of the angles of the lip. Close following on this, or contemporaneous with it, is a depressed and anxious countenance and inquiring gaze, suddenly lighting up and becoming fierce and menacing from some unknown cause or at the approach of a stranger. The eyes will occasionally wander after some imaginary object, and the horse will snap again and again at that which has no real existence ; then will come the irrepressible desire to bite the attendants or the animals

within its reach. The attack then passing off, he will go to his work and for a short time will perform it as well as he had been accustomed to do; then all at once he trembles, heaves, paws, staggers and falls. Almost immediately he rises, drags his load a little farther and again stops, looks about him, backs, staggers and falls once more. This is not a fit of megrims; it is not a sudden determination of blood to the brain, for the horse is not for a single moment insensible. The sooner he is led home the better, for the progress of the disease is as rapid as the first attack is sudden, and possibly he will fall twice or thrice before he reaches the stable. Then will come the irrepressible desire to bite the attendants or the animals within its reach. To this will succeed the demolition of the racks, the manger and the whole furniture of the stable, accompanied by the peculiar dread of water which has been already alluded to.

Towards the close of the disease there is generally paralysis, usually confined to the loins and the hinder extremities, or involving those organs which derive their nervous influence from this portion of the spinal cord—hence the distressing and ineffectual attempts to stool which are occasionally seen. The disease rarely extends beyond the third day. There is no cure for this complaint, and the sooner the animal is destroyed the better.

———:o:———

TETANUS OR LOCKED JAW.

This is one of the most dreadful diseases to which the horse is subject. It is called locked jaw because the muscles of the jaw are first affected and the mouth is obstinately and immovably closed. It is a constant spasm of all the voluntary muscles and particularly of those of the neck, the spine and the head. It is generally slow and treacherous in its attack; the horse for a day or two does not appear to be quite well; he does not feed as usual; partly chews his food and drops it, and he gulps his water. The owner at length finds that the motion of the jaws is considerably limited and some saliva is drizzling from the mouth; if he tries he can only open the mouth a very little ways, as the jaws are rigidly closed, and thus the only period at which the disease could have been successfully combatted is past.

SYMPTOMS.

Permanent rigidity of certain voluntary muscles, and especially of the lower jaw; the mouth is kept closely shut, the masseter muscles feeling as hard as a board; one or both sides of the neck are rigid, in the former case the head being turned to one side and in the latter stretched out as if carved in marble; the nostrils are dilated, the eyes re-

tracted, with the haws thrust forward over them ; the ears erect and stiff, and the countenance as if horror-struck. At first the extremities are seldom involved, but as the disease progresses control over them is lost, and they soon become rigid like the neck and head. The patient is at this time scarcely able to stand, and plants his feet widely apart to support himself. The tail next becomes a fixture, while the pulse varies a good deal, in some cases being quick, small and hard, and in others slow and labored. The bowels are generally costive, and the urine scanty, but this last symptom is not so well marked as the condition of the bowels.

TREATMENT.

Keep the horse quiet; give him 30 drops of prussic acid on a tablespoonful of honey ; put it on the top of the tongue, three times a day ; then give him the following: Vinegar one pint, sulphuric acid one ounce, shake in a bottle and inject in the mouth about one gill three times, and let him have all the water he will suck through his mouth ; then apply this liniment :

Ammonia	2 ounces.
Spirits of Wine	3 "
Turpentine	2 "
Vinegar	6 "

Mix together in a bottle and apply from ear to ear, on each side of the neck, and on the back. If he is costive give clysters. It is not necessary

to bleed or give chloroform, aloes, epsom salts, or the host of other things sometimes recommended ; the more simple the medicine the better it will be. I have never lost a case with this treatment when I had it in the start.

———:o:———

CRAMP.

This is a sudden, involuntary and painful spasm of a particular muscle, occasionally attacking the muscles of organic life.

SYMPTOMS.

In its most common form it only affects the hind extremities, where it is recognized by the temporary lameness and stiffness it produces in the hard worked horse as he is first led out of the stable in the morning. He will be quite stiff for a time, but will travel all right after a time. If any lameness remains, it can be ascertained by pressing the parts with the hand ; if he flinches and appears to be sore in some particular place, that will be the seat of the disease.

TREATMENT.

Spirits of Wine	4 ounces.
Spirits of Turpentine	2 "
Origanum Oil	2 "
Aqua Ammonia	2 "
Vinegar	6 "

Mix together and apply to the tender places, rubbing well in with the hands, and giving the

horse a wider and more comfortable stall, as narrow stalls are sometimes the origin of the difficulty.

———:o:———

STRINGHALT.

This is a sudden and spasmodic action of some of the muscles of the thigh. When the horse is first led from the stable, one or both legs are caught up at every step with great rapidity and violence, so that the fetlock sometimes touches the belly; but after the horse has been out a little while this generally goes off and the natural action of the animal is restored. In some cases it does not perfectly disappear after exercise, but the horse continues to be slightly lame. Stringhalt is not a perfectly involuntary action of a certain muscle or set of muscles. The limb is flexed at the command of the will, but it acts to a greater extent and with more violence than the will had prompted. No treatment is of the slightest avail.

———:o:———

FITS OR EPILEPSY.

The stream of nervous influence sometimes moves rapidly, and occasionally suspensions are considerable; this constitutes fits or epilepsy. Fortunately the horse is not often afflicted with this disease, although it is not unknown to the breeder.

SYMPTOMS.

The animal stops, trembles, looks vacantly around him and falls. Occasionally the convulsions that follow are slight, at other times they are terribly violent. The head and fore part of the horse are most affected, and the contortions are very singular. In a few minutes the convulsions cease ; the animal gets up, looks around him with a kind of stupid astonishment, shakes his ears, and if in his stable, eats or drinks as if nothing had happened.

TREATMENT.

Bleed from the jugular vein about four quarts ; followed by a strong cathartic of aloes, 6 drachms ; ginger, 2 drachms ; linseed oil, 1 pint ; then apply a blister behind the ears. Most veterinary writers say there is no cure for this complaint, but I have treated a great many in my practice, and have cured every one by the above treatment.

———:o:———

PALSY.

The same cause that produces epilepsy, sometimes causes palsy. In this disease the power of the muscles is unimpaired, but the nervous energy is deficient. In the horse palsy is usually general and not confined to one sides as commonly occurs in the human subject. It generally attacks the hind extremities—the loin and the back oftenest

exhibiting its effect, because there are produced some of the most violent muscular efforts, and there is the greatest movement and the least support. It may consequently be taken as an axiom to guide the judgment of the owner that palsy in the horse almost invariably proceeds from disease or injury of the spine. On inquiry, it is almost invariably found that the horse had lately fallen, had been worked exceedingly hard, or that covered with perspiration, he had been left exposed to cold and wet.

SYMPTOMS.

It commences generally in one hind leg, or, perhaps both are equally affected. The animal can scarcely walk, stepping on his fetlocks instead of his soles, and staggering at every motion. At length he falls and is raised with difficulty, or often never rises again. The sensibility of the parts seems for awhile to be greatly increased, but in general this gradually subsides, till it sinks below the usual standard or ceases altogether. The muscles of the hinder extremities in palsy feel soft, and are as quiet as they would be after death. If the body is examined after death there will usually about the regions of the loins be inflammation of the membranes of the spinal cord or of the cord itself. The medullary matter will be found of a yellow color or injected with spots of blood, or it will be softened and have become semi-fluid.

TREATMENT.

A strong cathartic should be given: Aloes 8 drachms, ginger 2 drachms, linseed oil 1 pint, spirits of nitre 2 ounces—to be given at one dose. Apply cloths rung out of hot water to the back and loins, and rub the following liniment to the back and loins:

Spirits of Wine	3 ounces.
Ammonia	2 "
Spirits of Turpentine	2 "
Vinegar	6 "

Then give every six hours half a pint of water in which is 2 ounces of spirits of nitre and 3 drachms of nux vomica, and roll from side to side to keep from scalding. He will lie two or three days, and I have known them in severe cases to lie a week, and then get up and begin eating. Do not sling a palsied horse, it makes him worse; give him anything he will eat.

———:o:———

RHEUMATISM.

It is only of late years that this has been admitted into the list of the diseases of the horse, although it is in truth a very common affection. It is frequent in old horses that have been early abused, and among younger ones, whose powers have been severely taxed; the lameness is frequent and excessive, and the pain is evidently excruciating.

SYMPTOMS.

The animal will not rest the slightest portion of its weight on the limb, or even touch the ground with his toe; he heaves at the flanks, sweating profusely, his countenance plainly indicating the agony he feels, but there is at first no heat or swelling, or tenderness. With proper treatment the pain and lameness gradually disappear.

TREATMENT.

Give of aloes 8 drachms, ginger 2 drachms, gentian 2 drachms, nitre 2 drachms, with warm water, half a pint. Then apply warm fomentations to the affected parts, afterwards applying a liniment composed of ammonia 2 ounces, spirits of wine 3 ounces, spirits of turpentine 2 ounces, vinegar 6 ounces; rub briskly on affected parts once a day, and exercise daily if the weather is fine.

CHAPTER II.

Diseases of the Eye.

DISEASES of the eye constitute a very important, but most unsatisfactory division of this work, for the maladies of this organ, although few in number, are frequent in their appearance, and are sadly obstinate, often baffling all skill.

———:o:———

WOUNDS.

Occasionally the substance around the eye is wounded by a fork, or other sharp instrument, and inflammation ensues. This should be abated by poultices, and bleeding, and physic; but no probe should be used in such a place.

The eyelids are subject to occasional inflammation from blows or other injuries. Cold application to the eye will here be serviceable. The following lotion will answer the purpose:

Vinegar.....6 ounces.
Spirits of Wine.....3 "
Rain Water.....6 "

Apply to the eye, with a sponge, twice a day.

The horse has occasionally a scaly eruption on the edges of the eyelids, attended with great itching. In the effort to allay this by rubbing, the eye may be blemished, but the application of the following lotion will set it all right: Vinegar one-half pint, soft water one pint; heat it warm, and apply to the eye twice a day. In two or three days the eye will be cured.

The eyelids will sometimes become puffed up with a serous humor. Horses fed in low, wet pastures, and old carriage horses are subject to it; and sometimes it is the result of badly treated inflammation. The lids should be well bathed with warm water.

Weakness, and dropping of the upper lid, is caused by diminution, or loss of power in its muscles. Dry friction, and the application of the following lotion will restore the tone of the eye:

Spirits of Wine..... 3 ounces.
Water..... 3 "
Sugar of Lead.....20 grains.
Apply to the eye, with a sponge, twice or thrice a day.

Warts are sometimes attached to the edges of the lids, and are a source of great irritation. When rubbed they bleed, and they are propagated by blood. They should be taken off with a sharp pair of scissors, and their roots touched with lunar caustic.

———:o:———

INFLAMMATION OF THE EYE.

The conjunctiva is occasionally the seat of much disease, and that too which is often destructive to the eye. Inflammation may be considered under two forms: The common and manageable, and the specific and fatal.

SYMPTOMS.

Inflammation is generally sudden in its attack; the lids will be found swelled, and the eyes partially closed, and weeping; the inside of the lid will be red, with some red streaks visible on the white of the eye, and the cornea slightly dim. This is occasionally connected with some degree of catarrh or cold, but it is as often unaccompanied by this, and depends on external irritation, as a blow or the presence of a bit of hay seed or oat huck within the lid.

TREATMENT.

The following lotion, applied twice a day, will usually abate the evil, or the inflammation will subside of itself in a few days:

Vinegar	6 ounces.
Spirits of Wine	3 "
Tincture of Opium	2 "
Distilled Water	4 "

Shake well before applying.

———:o:———

OPHTHALMIA, OR MOON BLINDNESS.

Should three or four days pass, and the inflammation not be abated, we may begin to suspect

that it is Ophthalmia, especially if the eye is very impatient of light, and the cornea is considerably clouded. The aqueous humor often loses its transparency, and even the iris changes its color, while the pupil is exceedingly contracted.

SYMPTOMS.

The first symptom is a dullness of the eye or eyes; sometimes one eye is affected, and sometimes both; a deeply-seated cloudiness appears, next the eye is closed, and then it begins to weep. It will be so for five or six days, when it will clear up, and to all appearance is as before, except that the eye is not so perfectly restored, and a slight deeply-seated cloudiness begins to appear, and after repeated attacks and alternations of disease from eye to eye, the affair terminates in opacity of the lens or its capsule, attended with perfect blindness either of one eye or both. This affection was formerly known by the name of Moon Blindness, from its periodical return. That body, however, has not and cannot have anything to do with it.

TREATMENT.

Bleed from the jugular vein six quarts, and apply the following lotion twice or thrice a day to the affected organ, with a syringe, injecting it under the lens:

Sulphate of Zinc..... ½ drachm.
Extract of Belladona..... 20 drops.
Rose Water..... ½ pint.

Roweling the cheeks, or anything of the kind, is unnecessary. I have cured the very worst cases with the above simple treatment.

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GUTTA SERENA.

This is another species of blindness. It is more commonly called glass eye.

SYMPTOMS.

The pupil is more than usually dilated, and is immoveable, bright and glassy. This is caused by palsy of the optic nerve, or its expansion. It is usually produced by a determination of blood to the head, as by a blow on the side of the head, or by anything that will injure the functions of the optic nerve.

TREATMENT.

Apply the following lotion to the affected eye three times a day :

Spirits of Nitre..... 1 ounce.
Tincture of Opium..... 1 "
Strychnine.....10 grains.
Shake well before using. Apply with a feather to the ball of the eye.

CHAPTER III.

Injuries and Diseases of the Ear.

BRUISES and wounds of the ear are usually the consequence of careless or brutal treatment, but are occasionally caused by the application of the twitch or the pliers. These bruises or wounds will generally speedily heal, but sinuses and abscesses are sometimes the result. A simple laceration of the cartilage is easily remedied by bringing together the divided edges, and tying the head up closely for a few days. If sinuses or abscesses are established, apply this lotion twice a day with a feather: Chloride of zinc 2 grains, to an ounce of water.

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DEAFNESS.

Of the occasional existence of this disease in the horse there is no doubt. The beautiful play of the ears ceases, and the horse hears not the voice of his master or the sound of the whip. Much of

the apparent stupidity of a few horses is attributable to their imperfect hearing. It is the result of certain diseases, and of blows, and as in other domesticated animals, is the certain accompaniment of old age. It can be alleviated by applying five drops of spirits of nitre twice every other day for a week.

CHAPTER IV.

Diseases of the Nose and Mouth.

NASAL POLYPUS.

BY the Polypus, is meant an excrescence or tumor, varying in size, structure and consistence, and attached by a pedicle to the mucous surface.

SYMPTOMS.

Nasal Polypus is a pendulous sac which forms in the nostril, and is only attached to the membraneous lining of the nose at the upper end, hanging down in the nostril. It becomes so large as to obstruct the breathing, for it must be remembered that a horse cannot breathe through the mouth.

TREATMENT.

The only cure is to take zinc wire and bend it in such a shape as to work it up above the sac to the neck or small part, and draw it tight around it and leave it, and it will slough off in a few days; then inject up the nostril, for three or four days, a

solution of carbolic acid, 1 drachm to 6 ounces of water. This will prevent its growing again.

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NASAL GLEET, OR DISCHARGE FROM THE NOSE.

There is a constant secretion of fluid to lubricate and moisten the membrane that lines the cavity of the nose, which, during catarrh or cold, is increased in quantity, and altered in appearance and consistence.

SYMPTOMS.

A discharge from the nostrils takes place. Sometimes only one nostril, but more commonly both are affected. The discharge will vary in color and quantity, sometimes being nearly white, at other times being yellow, or even a dark brown; it generally has no bad smell, except in severe cases, when it is very offensive. It does not seem to affect the general health of the horse in the commencement, but in the last stages the horse will run down and loose flesh, unless well cared for, and if the disease is not properly attended to there is danger of its terminating in glanders. It is caused by exposure, or is the result of distemper, or it may result from a blow or injury to the head.

TREATMENT.

Sulphate of Copper	2 ounces.
Ginger	4 "
Gentian	4 "
Alum	4 "

Mix well together, and give a tablespoonful night and morning in a hot bran mash ; he will be all right in a few days.

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CATARRH.

This is a light inflammation of the nasal mucous membrane, commencing with a chill and loss of appetite, sneezing and snorting, dimness of the eyes and the discharge of the watery mucus, which sometimes stops up the nostrils ; he coughs and refuses to eat, and his coat is staring. By placing the ear to the side of the neck a loud rattling will be heard in the air passage ; if it is not attended to it will affect the lungs.

TREATMENT.

Blanket and keep warm ; give four quarts of cold water with 10 drops of aconite, twice a day ; feed a hot bran mash with one tablespoonful of nitrate of potash in it.

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STRANGLES, OR HORSE DISTEMPER.

This is a disease principally incident to young horses, although occasionally appearing among old ones ; oftener in the spring than any other part of the year.

SYMPTOMS.

It is preceded by cough, and can at first be

scarcely distinguished from common cough, except that there is more discharge from the nostrils of a yellowish color, mixed with pus, and generally without smell. There is likewise a considerable discharge of ropy fluid from the mouth, and greater swelling than usual under the throat; this swelling increases with uncertain rapidity, accompanied by some fever and disinclination to eat, partly arising from the fever, but more from the pain which the animal feels in the act of mastication; there is considerable thirst, but after a gulp or two the water generally returns through the nostrils, but not in every case. In the attempt to swallow, and sometimes when not drinking, a convulsive cough comes on which almost suffocates the animal, and hence the name of the disease.

TREATMENT.

As soon as the tumor under the jaw is decidedly apparent, the part should be actively blistered; give in a hot bran mash one tablespoonful of nitrate of potash, with ginger one teaspoonful; give cold water and keep warm. Do not open the swelling under the throat, but let it break of its own accord. If you open it before it breaks, it will swell and break again; but if left to itself, it runs out and leaves the horse all right.

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GLANDERS.

The most formidable of all the diseases to which the horse is subject is glanders. It has been known from earliest antiquity.

SYMPTOMS.

First Stage.—The earliest symptom of glanders is an increased discharge from the nostrils, small in quantity, but constantly flowing; of a watery character, with a little mucus mingled with it.

Second Stage.—Matter is discharged from one, or in some cases from both nostrils, of a grayish or greenish color, mixed with yellow streaks and spots, and sometimes with a little blood. It adheres to the borders of the nose like glue. The quantity depends upon the amount of labor the animal is compelled to perform. On the sides where the discharge takes place, and under the jaw, a painless, round, and generally firmly adhering glandular swelling, of the size of a hen's egg, or smaller, is noticed. If he discharges from both nostrils, the swelling is seen on both sides. This is a certain symptom of glanders.

Third Stage.—The discharge from the nostril is doubled; his appetite is lost; his eyes are sunken; his coat looks unthrifty; his legs become swollen; tumors break out in different parts of the body; he becomes one mass of corrupt matter, and death ends the scene.

TREATMENT.

Give in a hot bran mash twice a day the following:

Soda..... ½ ounce.
Powdered Spanish flies..... 5 grains.

Put two ounces of carbolic acid into a basin or other suitable vessel; hold it under the horse's head and pour three ounces of sulphuric acid on it, and let the patient inhale the gas. If he shows symptoms of coughing and choking, withdraw the basin for a few minutes, and then apply it again. At first it will increase the discharge, but it will ultimately diminish it. If followed up faithfully for a month, it will cure the very worst case. I have cured cases that had been given up by veterinary surgeons who had them under treatment for a year, and they were still getting worse. I have cured them when they were given up to be taken out and shot.

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FARCY.

This disease appears to depend upon the development of the same poison as glanders, but the elimination is made in the skin instead of in the mucous membrane lining the nose. A horse inoculated with glanders may exhibit farcy, and a horse inoculated with farcy may exhibit glanders.

SYMPTOMS.

Farcy usually shows itself first by one or two small hard knots in the skin called farcy buds.

These soon soften and contain a small quantity of pus, but as this rapidly absorbs, the lymphatics which convey it into the circulation inflame, and at a short distance another bud is formed, and then another and another. These buds are met with in the thin skin covering the inside of the thighs and neck and lips. They vary from the size of a pea to that of an egg, and as they increase in numbers the skin becomes edematose. In process of time the general system suffers as in glanders, and the horse dies—a miserable worn out object. In the first stages give night and morning one tablespoonful of the following powder in a hot bran mash:

Nitrate of Potash	4 ounces.
Ginger and Gentian, each	2 "
Sulphate of Copper and Alum, each	2 "
Powdered Spanish flies	1 drachm.

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THE LIPS.

The lips of the horse are far more important organs than many suppose; they are the hand of the animal, and without them he could not convey his food to his mouth. The lips are composed of a muscular substance which gives strength, and a multitude of small glands which secrete a fluid that covers the inside of the lips and gums, in order to prevent friction, and to furnish the moisture so necessary for the proper chewing of the food. The corners or angles of the lips are sometimes wound-

ed by the tightness of the bearing rein, or by sharp or badly formed bits; and inflammation or ulcers in the mouth usually follow contusions thus inflicted. The application of the following lotion twice a day will set all right in a few days:

Carbolic Acid..... .....1 ounce.
Water..... .....10 "

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LAMPASS.

The bars of the mouth occasionally swell and rise to a level with and even beyond the edge of the teeth, becoming very sore, and causing the horse to feed badly on account of the pain he suffers from the pressure of the food on the tender parts. This is called lampass. It may arise from inflammation of the gums extending to the bars connected with them; or in other cases from a slight febrile tendency in the constitution, as when a young horse has lately been taken up from grass and has been over-fed and not sufficiently exercised. At times it appears in aged horses, for the process of growth in the teeth of the horse is continued during the whole lifetime of the animal.

TREATMENT.

A few slight incisions across the bars with the pen-knife will remove the inflammation and cause

the swelling to subside. Give one tablespoonful of the following night and morning in a hot bran mash :

Nitrate of Potash	1½ ounces.
Gentian	1½ "
Ginger	1½ "

CHAPTER V.

Diseases of the Tongue and Teeth.

THE tongue is frequently lacerated by carelessness in administering medicine, by the bit, and sometimes by being bitten by the animal itself. A little alum dissolved in water (or if the wound is not serious unassisted nature) will heal the parts.

Purple colored vesicles or bladders sometimes appear along the under side of the tongue, and increase to considerable size; the tongue will be enlarged so that it becomes difficult to swallow, and a great quantity of ropy saliva will drizzle from the mouth. Lance the vesicles freely and deeply from end to end, and they will soon disappear, and the little fever that remains may be subdued by giving once per day ten drops of tincture of aconite in four quarts of cold water.

THE TEETH.

Caries, or hollow teeth, are occasionally, but not often, seen in the horse; but the edges of the grinders, from the wearing of the enamel or the irregular growth of the teeth, become rough and wound the inside of the cheek; it is then necessary to rasp them smooth. Many bad ulcers have been produced in the mouth by neglect of this. The teeth sometimes grow irregular in length—particularly the grinders—from not meeting the proper opposition of the corresponding tooth in the other jaw; these sometimes penetrate the bars, causing ulceration, and at other times interfering partially or entirely with the grinding motion of the jaw. These teeth should be reduced to the level of the others with a saw, and occasionally looked to, because the difficulty will return. Horses often pine away from this unsuspected cause; every horse that grows thin without apparent cause—especially if he partly chews and then drops his feed—should be looked to in this particular. Very irregular teeth lessen the value of a horse; decayed teeth should be removed to prevent injury to the other teeth and to the jaw; the hammer and punch should never be resorted to in this operation, but a keyed instrument should be used, like

that employed on the human subject, only on a larger scale.

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THE AGE OF THE HORSE

Is judged from his teeth, and from certain external marks on them, on his jaws, etc. A few days after birth the foal cuts four front teeth, two above and two below, and shortly after four more on each side. Up to the age of nine months he cuts four additional teeth in the same order, and these twelve teeth are termed milk teeth. At the age of two and a half to three years, the animal sheds the first four milk teeth, and four somewhat darker colored teeth, termed incisors, take their places; at this age stallions cut their canine teeth, which begin to lose their sharp edges when the horse is six years old, and at the age of ten have become quite blunted; in mares the corner teeth are wanting or they are very short. The last milk teeth are shed at four and a half or five years, and are replaced by the corner teeth. From this period the age of the horse is judged from depressions on the permanent teeth termed marks; the older the horse the more the marks become worn and effaced, and inasmuch as the lower jaw is used more than the upper, the marks on the lower teeth are obliterated

sooner than those on the upper. At five and a half or six years, the marks on the lower canine teeth are entirely effaced; at six years and a half or seven years, they disappear on both the lower central teeth; at seven and a half to eight years, on the lower corner teeth; at eight and a half or nine, the marks on the two upper incisors become obliterated; at nine and a half to ten years, they disappear on the two corner teeth; at eleven to fifteen, both the upper and lower, middle and corner teeth become blunted and triangular; at fifteen to twenty, all the middle and corner teeth become flat and obliquely inclined towards the muzzle; they look yellow, and are covered with *sordes;* at the age of twenty and upwards, the teeth become more and more flattened, and are worn even as far as the *alveoli*, and are completely oblique. Other signs by which an old horse can be known from a young one, are: If he is under ten the bottom of the jaw will be round and blunt; if over ten, the jaws will be sharper; at fifteen they are quite sharp; at twenty and thirty they will be as sharp as the edge of a silver three cent piece.

CHAPTER VI.

Diseases of the Neck and Neighboring Parts.

POLL EVIL.

FROM the horse rubbing or striking his poll against the lower end of the manger, or hanging back in the stall and bruising the part with the halter, or from the frequent and painful stretching of the ligaments and muscles by unnecessarily tight reining, and occasionally from a violent blow on the poll, inflammation ensues, and a swelling appears—hot, tender and painful. It was formerly a disease of frequent occurrence, but it is now—from better treatment of the animal—comparatively rare.

SYMPTOMS.

A swelling appears back of the ears which are hot, tender and painful; and the horse will protrude his nose. Sometimes it is on one side of the poll, and sometimes on both.

TREATMENT.

If the swelling is just commencing, apply the following lotion, which will disperse the enlargment:

Soft Soap	6 ounces.
Tincture Iodine	2 "

Apply once a day, until cured.

If the tumor has come to a head and is discharging, apply once a day the following:

Spirits of Wine	6 ounces.
Aloes	1 "
Gum Benzoin	1 "
Powdered Myrrh	½ "
Water	3 "

Apply to the wound twice a day, with a feather.

They do not want medicine, as some writers say; all they need is simple treatment, to cure the worst cases.

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INFLAMMATION OF THE VEIN.

It is usual and proper after bleeding, to bring the edges of the wound carefully together, and to hold them in contact by inserting a pin through the skin with a little tow twisted around it. In ninety-nine cases out of a hundred the wound quickly heals, and gives no trouble; but in a few instances inflammation of the vein may ensue from using a blunt instrument, or a dirty or rusty one, or striking too hard and bruising the vein, or in the act of pinning up, pulling the skin too far

from the neck, and suffering some blood to insinuate itself into the cellular texture.

SYMPTOMS.

A slight bleeding appears, and slight tumefaction commences, the edges of the orifices separate and become swollen and red; a discharge of sanious, bloody fluid proceeds from the wound, followed, perhaps in a few days, by purulent matter; the neck swells, and is hot and tender both above and below the incision, the lips of the wound become everted, the swelling increases, particularly above the wound, where the vein is most hard and cordy; the horse begins to loathe his food, and little abscesses form around the orifice; the cordiness of the vein rapidly increases; not only the vein itself has become obstructed, and its coats thickened, but the cellular tissue is inflamed and hardened, and is an additional source of irritation and torture; the thickening of the vein extends to the bifurcation above; it occupies both branches and extends downward to the chest, even to the very heart itself, and the patient dies.

TREATMENT.

First give a dose of, aloes, 6 drachms; ginger, 2 drachms; linseed oil, 1 pint. The vein should be carefully and long fomented until the swelling abates. After two or three days, if there is still some enlargement, apply once a day, for three days, an ointment of biniodide of mercury,

1 drachm; lard, 1 ounce; then wash off and grease; after the scab works off if there is any enlargement, apply it again.

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TRACHEOTOMY.

It has been found that when an obstruction occurs in the windpipe of the horse, which cannot be removed in time for safety, a portion of the trachea may be removed at or below the point of obstruction, to admit of the continuance of respiration. The operator should at once examine the whole course of the windpipe; the different sounds which he will be able to detect by the application of the ear, and likewise the different degrees of temperature and of tenderness which the fingers will detect, will guide to the seat of the evil. The hair is to be closely cut from the part, the skin tightened across the trachea with the thumb and fingers of the left hand, and then a longitudinal incision three inches in length cautiously made through the skin. This is usually effected (when there is no express indication to the contrary) on the fifth and six rings, a slip from which and the connecting ligament above and below about half the width of each ring should be excised, with the intervening ligament; the remaining portion will then be strong enough to retain the perfect arched form of the trachea. If the orifice is only to be kept open while some

foreign body is extracted, a tumor removed, or an ulcer healed, or inflammation subdued, nothing more is necessary than to keep the lips of the wound a little apart by passing some thread through each and slightly everting them and tying the threads to the mane.

CHAPTER VII.

Diseases of the Chest and Neighboring Parts.

FISTULOUS WITHERS.

WHEN the saddle has been suffered to press long upon the withers a tumor will be formed, which will be found to be very hot and exceedingly tender. It may sometimes be dispersed by the application recommended for the treatment of poll evil ; but if in despite of this the swelling should remain stationary, and especially if it should become larger and more tender, warm fomentations and poultices and stimulating embrocations should be diligently applied in order to hasten the formation of pus. As soon as that can be fairly detected, a seton should be passed from the top to the bottom of the tumor so that the whole of the matter may be evacuated

and continue to be discharged as it is afterwards formed ; or the knife may be freely used in order to get at the bottom of every sinus. The knife has succeeded many times when the seton has failed. The after treatment must be precisely that which was recommended for a similar disease in the poll.

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WARBLES, SITFASTS AND SADDLE GALLS.

On other parts of the back tumors and very troublesome ulcers may be produced by the pressure of the saddle. Those resulting from the pressure of the saddle are called warbles, and when they ulcerate they frequently become sitfasts. Warbles are small circular bruises or extravasations of blood where there has been an undue pressure of the saddle or harness. If a horse is subject to these tumors, the saddle should remain on him two or three hours after he has returned to the stable. It is only for a certain time, however, that this will perfectly succeed, for by the frequent application of the pressure the skin and the cellular substance are bruised or otherwise injured, and a permanent sore or tumor of a very annoying description takes place ; the center of the sore gradually loses its vitality ; a separation takes place from the surrounding integument, and there is a circular piece of dried and hard skin remaining in the center. No effort must be made to tear

or dissect it off, but apply twice a day a lotion of carbolic acid 1 ounce, and water 19 ounces, and it will heal the sore, and the scab will gradually slough off.

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THE DIAPHRAGM.

The interposed curtain extending across the cavity of the chest, between the thorax and abdomen, is called the diaphragm. It is the main agent, both in ordinary and extraordinary respiration, and assists also in the expulsion of the urine, and it is a most powerful auxiliary in the act of parturition. It is subject to injury and disease of a serious and varied character. Whatever may be the original seat of thoracis or abdominal ailment, the diaphragm soon becomes irritable and inflamed; this accounts for the breathing of the horse being so much affected under every inflammation or excitement of the chest or belly.

SYMPTOMS.

The irritability of this muscle is often evinced by a singular spasmodic action of a portion or the whole of it; the horse breathes hard and short; he lies down, looks at his sides, rises up again and sits on his haunches like a dog; his breathing is labored; he stands with his legs apart, and if water is offered him he will drink to excess.

TREATMENT.

Give the following every two hours, until better:

Prussic Acid.....20 drops.
Sulphuric Ether..... 1 ounce.
Laudanum.....1½ "
With half a pint of cold water.

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HEART DISEASE.

The best place to examine the beating of the heart is immediately behind the elbow, on the left side; the hand applied flat against the ribs will give you the number of the pulsations; the ear applied behind the elbow, on the left side, will enable you to better ascertain the character of the pulsation.

SYMPTOMS.

If there are thumps of the heart they can be plainly seen; in some cases they can be heard a considerable distance from the horse. Veterinary writers claim that there is no cure for this disease, but I have had numerous cases in my practice, and I have succeeded in curing them all. In fifty cases none of them returned the second time.

TREATMENT.

Prussic Acid.....20 drops.
Laudanum..... 1 ounce.
Sulphuric Ether..... 1 "
To be given in a pint of cold water. If not better in three hours, repeat the dose.

By placing the ear against the side you will

hear a flutter in the chest; and the heart will beat like a fish in water. This is in cases where there is water around the heart. Apply blisters behind the arms two or three times, and give the following once a day on the oats:

Alum	1 pound.
Copperas	4 ounces.
Ginger	6 "
Gentian	6 "
Mustard	4 "

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FEVER.

Fever is generally increased arterial action, either without any local affection, or in consequence of the sympathy of the system with inflammation in some peculiar part. The first is owing to bad stable management, and general ill treatment, and to the susceptibility of various parts of the horse to become inflamed, and usually degenerates into inflammation; but fever purely is sometimes seen, and runs its course regularly.

SYMPTOMS.

It frequently begins with a cold or shivering fit, although this is not invariable. The horse is dull, unwilling to move, has a staring coat, and cold legs and feet; this is succeeded by warmth of the body; unequal distribution of warmth in the legs, one hot and the other three cold, or one or more unnaturally warm and the others unnatur-

ally cold; but not the deathlike coldness attending inflammation of the lungs. The pulse is quick, soft, and often indistinct, the breathing somewhat laborious, but no cough or pawing, or looking at the flanks; and the animal will scarcely eat, and is very costive.

TREATMENT.

Aconite 15 drops, given in 4 quarts of cold water twice a day, and if very costive, give injections.

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SPINAL MENINGITIS.

The symptoms which characterize Spinal Meningitis are remarkably distinctive; in most cases the access of the disease has been more or less gradual, the development occupying from one to three days.

SYMPTOMS.

Pain in the spine is indicated by the horse frequently changing the position of the hind limbs. When led out of the stall he is perceived to manifest weakness in his hind-quarters, and reels slightly in his walk; the back and loins are a little arched, and he is evidently unable to advance his hind legs under his body as in health; this weakness is most perceptible in turning around. The pulse is soft, and sometimes slower than in health; respiration is often slow and feebly performed, and in some cases paralysis appears to

spread forward, and the movement of all the limbs gradually diminishes. In more severe cases the patient reluctantly gets down or falls, and then lies, struggling but little, his body at full length, his breathing slow and deep. In the course of the disease, however, nervous twitchings occur, and even violent convulsive action of the limbs is observed. When the disease is protracted delirium supervenes, and the discharge from the bladder is passed involuntarily, and he will lie with his head drawn back and his eyes staring.

TREATMENT.

Give 1 ounce of laudanum, 2 ounces of spirits of nitre and 1 ounce of sulphuric ether in a half pint of cold water, and if not better in three hours give another dose. Then apply hot cloths to the spine, keep blanketed warmly, and use the following liniment once a day until cured :

Spirits of Wine	3 ounces.
Ammonia	1 "
Spirits of Turpentine	1 "
Spirits of Nitre	3 "

CHAPTER VIII.

Diseases of the Respiratory System.

INFLAMMATION OF THE LARYNX.

STRICTLY speaking, this refers to inflammation confined to the larynx, but either catarrh or bronchitis, or both, frequently accompany the complaint.

SYMPTOMS.

Its approach is often insidious, scarcely to be distinguished from catarrh, except by being attended with more soarness of the throat and less enlargement of the parotid glands ; there are also more decided and violent paroxysms of coughing than in common catarrh, attended by a gurgling noise which may be heard at a little distance from the horse, and which by auscultation is found to be referable to the larynx. The breathing is shorter and quicker, and evidently more painful than in catarrh ; the membrane of the nose is red-

der, being of a deep madder color. When the larynx is pressed upon, the paroxysms of coughing become more frequent and violent, and the animal appears at times almost suffocating. As the soarness of the throat proceeds the head of the animal is projected, and the neck has a peculiar stiffness ; there is also much difficulty in swallowing, considerable swelling of the larynx and pharynx ensue, and also of the parotid, sublingual and submaxillary glands. As the inflammation increases the cough becomes hoarse and feeble, and in some cases is altogether suspended. At the commencement there is usually little or no running at the nose, but the secretion soon increases, and is generally mixed with an unusual quantity of saliva.

TREATMENT.

Give twice a day, in a hot bran mash, one tablespoonful of the following powder :

Nitre of Potash	4 ounces.
Digitalis	½ "
Mustard	3 "
Ginger	2 "

Apply to the throat and breast once a day, the following liniment:

Spirits of Wine	3 ounces.
Spirits of Turpentine	2 "
Ammonia	2 "
Vinegar	6 "

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ROARING.

The present will be the proper place to speak of that singular impairment of the respiratory functions recognized by this name.

SYMPTOMS.

On carefully listening to the sound it will appear that the roaring is produced in the act of inspiration, and not in that of expiration. If the horse is briskly trotted, more particularly if he is hurried up hill, or if he is suddenly threatened with a stick, this peculiar sound will be heard and cannot be mistaken. The causes are tight reining, distemper, or inflammation of the larynx, or from hard running. If he is struck with the hand just behind the fore leg a loud grunt will be heard; sometimes you can drive him, and if he is not excited he will not show any signs of roaring. It mostly affects carriage and high headed horses.

TREATMENT.

Rub the following liniment on the throat every other day:

Ammonia	2 ounces.
Spirits of Wine	3 "
Spirits of Turpentine	2 "
Vinegar	6 "

Give one teacupful of this liquid, once a day, in a hot bran mash:

Linseed Oil	1 quart.
Alum	4 ounces.
Digitolis	1 "
Arsenic	1 dracbm

Put in a bottle and shake well before using it.

BRONCHOCELE.

This is enlargement of the thyroid glands—two oval bodies below the larynx and attached to the trachea, the use of which has never been satisfactorily explained—they sometimes grow from the size of a hen's egg to that of two goose eggs, and are generally attended by cough or fever, or both.

TREATMENT.

They can be removed by the repeated application of the following ointment, rubbed well into the lump once every other day :

Lard.....8 ounces.
Iodine .....1 "
Cantharides, powdered.....1 drachm.

Mix well together, and use each time a piece about the size of a chestnut.

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EPIDEMIC INFLUENZA.

This disease usually prevails during a cold, wet spring, or one succeeding a mild winter ; and is prevalent among young horses and those in high condition, or that have been kept in hot stables or exposed to the usual causes of inflammation. Animals moderately worked and correspondingly fed, generally escape ; or even when it appears in most of the stables in adjoining districts, horses regularly worked and moderately fed (although not entirely exempt) are comparatively little affected.

SYMPTOMS.

The disease generally commences in the membrane of the nose, but involves the whole of the respiratory apparatus before it has been established twenty-four hours. It is frequently attended with sore throat, the horse quidding his hay and gulping his water. There is seldom any great enlargement of the glands, the parotids are a little tumefied, the submaxillary somewhat more so, but not at all equivalent to the degree of soreness, which is so excessive that day after day the horse will obstinately refuse to eat. Discharge from the nose soon follows in considerable quantity—thick, very purulent and sometimes fetid—the breathing is accelerated and laborious at the beginning, but this does not always increase with the progress of the disease. Thus the malady proceeds for an uncertain period, occasionally for several days, and the animal dies, exhausted by extensive or general irritation. In other cases the inflammation assumes a local determination, and we have bronchitis or pneumonia of the lungs, but of no very acute character, and yet difficult to treat, from the general debility with which it is connected.

TREATMENT.

Give 10 drops of aconite in 4 quarts of cold water every 4 hours until four doses are given, then every seven hours till better; give hot bran mash twice a day with one tablespoonful of nitre of potash in, and one teaspoonful of ginger. Apply

to the throat, breast and sides once a day the following liniment :

Spirits of Wine	3 ounces.
Ammonia	2 "
Vinegar	6 "
Laudanum	1 "

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BRONCHITIS.

Bronchitis is an inflammation of the mucus membrane lining the bronchia, and almost invariably extending to these parts through the trachea from the larynx and nasal passages, which are primarily affected.

SYMPTOMS.

A haggard countenance and anxious look, the respiration rapid, with a wheezing sound which can be heard at some distance ; the pulse raised to sixty or seventy ; the cough painful to the extreme, the eyes staring, the legs and ears not cold. He keeps his head up, and if he swallows anything, it will return through the nostrils ; the natural termination of this disease—if unchecked—is in pneumonia.

TREATMENT.

Fit a woolen cloth around the neck and keep warm. Give one teaspoonful of the following in half a pailful of cold water three times a day :

Sulphuric Acid	½ ounce.
Water	10 "
Prussic Acid	1 drachm.

Give hot bran mashes with a tablespoonful of the following powder twice a day :

Nitre of Potash	6 ounces.
Ginger	3 "
Mustard	3 "
Tartar Emetic	1 "

Mix well together.

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INFLAMMATION OF THE LUNGS.

The exact structure of the lungs has never been satisfactorily demonstrated, but they appear to be composed of minute cells or pouches into which the air is conducted ; and over the delicate membrane which constitute its divisions, myriads of minute blood vessels ramify. The blood is not merely permeating them, but is undergoing in them a vital change. There is a constant decomposition of the air and of blood, and during the excitement of exercise this decomposition proceeds with great rapidity. It can readily be conceived that a membrane so delicate as this must be in perfect order, that its interposition shall be no hindrance to the arterialization of the blood, while it is so fragile, and so loaded with blood vessels, as to be exceedingly subject to inflammation, and that of a most dangerous character.

SYMPTOMS.

Inflammation of the lungs commences by a chill or shivering fit, and the horse will stand back at

the end of the halter with his head down and breathing hard; his legs braced out as though afraid of falling. He will make no motion more than to occasionally turn his head slowly around to his side; his legs and ears are cold, and the membrane of the nostril will have a very pale and sickly appearance. Place your ear to his right side and you will hear a rattling noise; the pulse will raise to 65 or 75 (in health it is about thirty-six to forty), and he will not lie down till he gets better or dies. Inflammation of the lungs runs its course from one to seven days. The quieter you keep the patient the better.

TREATMENT.

Give 10 drops of aconite in one pint of cold water every hour for four hours, then give every two hours till better. Apply the following liniment to the sides and breast once a day:

Spirits of Turpentine	3 ounces.
Spirits of Wine	6 "
Vinegar	3 "
Ammonia	2 "

Shake well before using.

Blanket and keep quiet, and pay no attention to what would-be advisers may say. Remember that competent advice about disease in men or horses, comes only from those who have obtained their knowledge by hard study, and who value it too highly to voluntarily give it away.

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EPIZOOTIC OR CATARRHAL FEVER.

The epizootic is not confined to any class or condition of horses, whether well cared for in stables or running at large in the fields. The disease is one of an atmospheric character, the exhalation from the lungs of a single diseased horse will poison the atmosphere to such an extent that every other horse breathing it will sooner or later be affected in like manner. Its specific action is upon the mucous surface of all of the breathing apparatus, no part of which suffers more severely than that which is called the larynx, or upper tube of the lungs. The irritation at this point produces a spasmodic condition which makes the difficulty of breathing and induces the cough.

SYMPTOMS.

This disease is ushered in by a suffusion of the eyes, a chilly sensation, succeeded by heat and a slight hoarse cough. As it increases the difficulty of breathing becomes very great, and the strongest evidences of almost suffocation may be seen in the struggles of the muscular system to aid respiratory action. This difficulty of breathing is also attended with a continuous cough, which may last from a few hours to several days; the surface is hot, and the pulse quick. In some cases a few hours may produce death when the disease is characterized by greater violence of all the preceding symptoms,

with tightness and dryness of the mucous surfaces, the want of secretions, a restless and uneasy condition, frequent and weak pulse, cold extremities, calmmy sweat, prostration, and finally death. A favorable change is indicated by the appearance of more or less secretion from the nostrils, which may be of a white or greenish appearance, either of which indicates that the congestion of the mucous surface has subsided, and if the strength of the horse is not too far destroyed he will recover. After these conditions have been established the cough becomes loose, losing the harsh ringing sound which characterizes the disease in its active form.

TREATMENT.

Give hot bran mash twice a day with one tablespoonful of the following powder in it:

Nitre of Potash	6 ounces.
Ginger	3 "
Mustard	5 "
Tartar Emetic	1 "
Digitalis	1 "

Mix well together.

Give in the water one teaspoonful, twice a day, of a mixture of sulphuric acid, 1 ounce, to twenty ounces of water. Apply to the breast and sides once a day the following liniment:

Spirits of Turpentine	2 ounces.
Ammonia	2 "
Spirits of Wine	3 "
Vinegar	4 "

Shake well before using.

CHRONIC DISEASES.

It would occupy too much space to treat of all the causes of obstinate cough and irritability of the air passage occasioned by previous inflammation. It is also sometimes connected with worms, or is caused by glanders, and is the necessary attendant of thick or broken wind. If a harsh, hollow cough, is accompanied by a staring coat and the appearance of worms, a few doses of the following will expell them : Spirits of turpentine, 3 ounces, oil of tar, 2 ounces. Put one teaspoonful in a hot bran mash once a day. If the cough proceeds from irritability of the air passages, which will be discovered by his coughing after drinking, or when he first goes out of the stable in the morning, give one tablespoonful of the following powder, twice a day, in a hot bran mash :

Nitre of Potash	3 ounces.
Digitalis	½ "
Tartar Emetic	1 "
Ginger	2 "

Mix well together.

If it is a dry cough, of long standing, give twice a day on oats for two or three days, a tablespoonful of the following :

Linseed Oil	6 ounces.
Spirits of Turpentine	3 "
Oil of Tar	2 "

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HEAVES.

Heaves are brought on by anything that will create irritation of the lungs, such as being much in the dust, taking cold, musty hay, eating large quantities of food and being fast driven immediately afterwards; or anything that produces irritation of the lungs or causes the mucous membrane lining the cells of the lungs to become thickened, thereby partly closing the air cells, and causing a labored effort in breathing, which is made worse by exercise, and is indicated by a peculiar jerking motion of the flank. This stage of the disease can be cured. The second stage is when it becomes rupture of the air cells of the lungs after long standing of the disease. For this stage there is no cure, but you can fix such a horse for the time being so that he will show no difficulty in breathing by giving the following powder, one tablespoonful twice a day, in a hot bran mash:

Tartar Emetic	1 ounce.
Digitalis	1 "
Nitre of Potash	6 "
Ginger	3 "
Sulphur	4 "

Do not give much water at a time, nor a great deal of hay, but give oats instead.

The first stage of heaves can be cured if treated in this way, with the following medicine—I have cured over a hundred by its use: Take in an

earthen dish, say about two tablespoonsful of chloride of lime, on which pour two ounces of sulphuric acid, and hold the dish under the horse's nose and let him inhale the smoke. If he shows any signs of choking withdraw it for a few moments; follow this for four days; then withdraw the lime and put carbolic acid instead, say about one tablespoonful; and follow this for six days; then stop it for a week and apply it again, using instead of carbolic use, iodine in crystals, one teaspoonful; apply this for six days, and the patient is cured. Give hot bran mashes twice a week for two or three weeks after.

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PLEURISY.

The principal causes of Pleurisy are the same as those which produce pneumonia—exposure to cold, riding against a keen wind, immersion as high as the chest in cold water, drinking cold water, and extra work of the respiratory machine. To these may be added, wounds penetrating into the thorax and lacerating the pleura, fracture of the ribs or violent contusions on the side, the inflammation produced by which is propagated through the parietes of the chest.

SYMPTOMS.

The first symptom is chill, followed by increased heat and partial sweats; to these succeed loss of

appetite and spirits, and a low and painful cough: the pulse is wiry and small; the extremities are not deathly cold, but cool; they are more often variable, and sometimes present increased heat: the body is far more liable to variations of temperature, and the cold and hot fits more frequently succeed each other; the mouth is not so hot as in pneumonia, and the breath is rarely above its usual temperature; the horse will look around at his sides, thus pointing out the seat of the disease.

TREATMENT.

Give 10 drops of aconite and 10 drops of belladonna in 4 quarts of water every hour until four doses are given; then repeat every two hours until better. Apply the following liniment to the breast and sides once a day:

Ammonia	1 ounce.
Spirits of Wine	3 "
Spirits of Turpentine	2 "
Laudanum	1 "
Camphor Gum	1 "

Shake well before using.

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CONSUMPTION.

This fatal complaint is usually connected with or is the consequence of pneumonia or pleurisy, and attacks especially, horses of a peculiar formation. When a narrow-chested, flat-sided horse is attacked by inflammation of the lungs or severe

catarrhal fever, experience tells us that we will have more difficulty in subduing the disease in him than in one deeper in the girth or rounder in the chest; and that in him the disease will probably terminate in consumption, if relief is not very soon afforded. Consumption can be recognized by the following

SYMPTOMS.

The flanks heave a little more laboriously than they should, and this heaving is painfully quickened when sudden exertion is required; he coughs harshly, and discharges from the nose a mucus tinged with blood, or a fluid decidedly purulent; the breath becomes offensive, the pulse is always above 40, and strongly increased by the slightest exertion; his eyes are sunken and have a dull appearance; occasionally he will brighten up and look quite lively, but it lasts only a short time. When these symptoms are developed the animal will exhibit considerable pain on being gently struck on some part of the chest; the cough then becomes more frequent and painful, the discharge from the nose more abundant and fetid, and the emaciation and consequent debility more rapid, until death closes the scene.

TREATMENT.

Give one tablespoonful, twice a day, in a hot bran mash, of the following powder:

Nitre of Potash.....6 ounces.
Ginger.....4 "
Tartar Emetic.....2 "
Digitalis.....1 "
Black Antimony.....1 "
Mix well together.

Then apply to the breast and sides, once a day, the following liniment:

Spirits of Turpentine.....2 ounces.
Ammonia.....1 "
Spirits of Wine.....3 "
Camphor Gum.....1 "
Laudanum.....1 "
Put the camphor with the spirits of wine until it is disolved, then mix together, and shake well before using.

To be given in a hot bran mash, the steam from which will be inhaled and taken into the lungs—the very seat of the disease—and thus relieve, if not cure the difficulty.

CHAPTER IX.

Diseases of the Intestines.

SPASMODIC COLIC.

THE passage of the food through the intestinal canal is effected by the alternate contraction and relaxation of the muscular coat of the intestines. When that action is simply increased through the whole of the canal the food passes more rapidly, and purging is produced; but the muscles of every part of the frame are liable to irregular and spasmodic action, and the muscular coat of some portion of the intestines may be thus affected. The spasm may be confined to a very small part of the canal, which has been found after death strongly contracted in various places, but the contraction not exceeding five or six inches in any one place; in the horse the illium is the usual seat of this disease. It is of

much importance to distinguish between spasmodic colic and inflammation of the bowels, for the symptoms have considerable resemblance, although the mode of treatment should be very different.

SYMPTOMS.

The attack of colic is very sudden, there often being not the slightest warning (inflammation of the bowels is slow in its approach); the horse shifts his posture, looks around at his flanks, paws violently, strikes his belly with his feet, and crouches in a peculiar manner, advancing his hind limbs under him. He will then suddenly lie, or rather fall down and balance himself upon his back, with his feet resting on his belly. The pain now seems to cease for a little while, and he gets up and shakes himself and begins to feed. The respite, however is short, the spasms return more violently; every indication of pain is increased; he heaves at the flanks, breaks out into a profuse perspiration, and throws himself more recklessly about. In the space of an hour or two either the spasms relax and the remissions are of longer duration, or the torture is augmented at every paroxysm, the intervals of ease are fewer and less marked, and inflammation and death supervenes. The pulse is but little affected at the commencement, but it soon becomes frequent and contracted, and at length is scarcely perceptible.

TREATMENT.

Give one and a half ounces of sulphuric ether, with an ounce of laudanum, in half a pint of warm water. If the horse is costive, give in half an hour this dose:

Aloes	6 drachms.
Ginger	1 "
Warm Linseed Oil	½ pint.
Sulphuric Ether	1 ounce.
Laudanum	1 "

That will set him all right; do not give medicine every ten minutes; give one dose time to act before you give another, and do not pay any attention to what those may say who are always so ready to give gratuitous advice, which causes the loss of many valuable animals.

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FLATULENT COLIC.

This is altogether a different disease from the former; it is not spasm of the bowels but inflation of them from the presence of gas emitted by undigested food. Whether collected in the stomach or in the small or large intestines, all kinds of food are liable to ferment. In consequence of this fermentation, gas is evolved to a greater or less extent; perhaps to twenty or thirty times the bulk of the food.

SYMPTOMS.

The symptoms are, the horse if on the road suddenly slackening his pace and preparing to lie

down, or falling down as if he were shot; if in the stable, he paws the ground with his fore feet, lies down, rolls, starts up all at once and throws himself down again with great violence, looking wistfully at his flanks, and making many fruitless attempts to void his urine. The symptoms are not much unlike spasmodic colic, but the real character of the disease soon begins to develop itself, as it is in one of the large intestines, and the belly swells all around, but mostly on the right flank. As the disease proceeds the pain becomes more intense, the horse violent, and at length death closes the scene.

TREATMENT.

Give chloride of lime, one teaspoonful in a pint of cold water, and shake well; then put in one ounce of laudanum, and give in the form of a drink. This will give speedy relief.

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INFLAMMATION OF THE BOWELS.

Inflammation of the external coats of the stomach, whether of the peritoneal or the muscular, or both, is a very frequent and fatal disease; it speedily runs its course, and it is of great consequence that its early symptoms should be carefully observed and quickly recognized.

SYMPTOMS.

In many cases a shivering fit will occur, the mouth will be hot and the nose red; the animal

will soon express the most dreadful pain by pawing, striking at his belly, looking wildly at his flanks, and groaning and rolling; the pulse will be quickened and small, the ears and legs cold, the belly tender (which is a sure sign of the disease) and sometimes hot, the breathing quickened, the bowels costive, and the animal becoming rapidly and fearfully weak. Relief must now be speedy and effectual. His reckless manner of throwing himself about renders approach to him quite perilous, and makes him not only an object of compassion, but of apprehension; he seems fast hurrying to his end, when all at once, in the midst of agonizing torments, he stands quiet, as though every pain had left him and he were going to recover; his breathing becomes tranquilized and his pulse sunk beyond perception. His body will, however, be found bedewed with a cold, clammy sweat; he will be in a tremor from head to foot, and about the legs and ears has a death-like feel, the mouth chilly, the lips drop pendulous, and the eye seems unconscious of objects; in fine, death and not recovery, is at hand. Mortification has seized the inflamed bowels, pain can no longer be felt in that which a few minutes ago was the seat of exquisite suffering, he again becomes convulsed, and after a few more struggles, less violent than the former, death comes to his relief.

TREATMENT.

Give 1 ounce of sulphuric ether and 1 ounce of laudanum in half a pint of warm water; in twenty minutes give one pint of linseed oil heated warm, putting in it 1 ounce of sulphuric ether and 1 ounce of laudanum; if costive, give injections. If the pain still continues, then apply warm cloths to the belly, and that will give speedy relief.

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CONSTIPATION OF THE BOWELS.

The chief causes of constipation are dry, heating, rich, heavy or spoiled feed, especially when the animal eats with avidity. It is also caused by over-heating, colds, and other causes.

SYMPTOMS.

He refuses his feed or eats slowly, the dung is extremely hard and dark and covered with slime. If the trouble continues for days the animal becomes more restless, makes frequent attempts to evacuate the bowels, but without success; expresses signs of pain in the abdomen by looking at the flanks, pawing the ground, and lying down more than in any other disease; the bowels become distended, and the animal grows more restless, and if not relieved, other affections, such as inflammation of the bowels, etc., are apt to develop themselves.

TREATMENT.

Give 6 drachms of aloes and 1 drachm of ginger, dissolved in half a pint of hot water; when nearly cold put in half a pint of linseed oil and drench. If he is in pain give 1 ounce of laudanum and 2 ounces spirits of nitre; give the above dose every day until better; also give injections. Sometimes the trouble will last as long as two weeks, and yet he will come out all right if properly attended to.

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BOTS.

In the spring of the year horses are much troubled by a grub or caterpillar which crawls out of the anus, fastens itself under the tail, and seems to cause a great deal of itching or uneasiness. The owners of horses are sometimes alarmed at the appearance of these insects, but a knowledge of their curious history will dispell every fear with regard to them. In the latter part of the summer a species of gadfly is exceedingly busy about the knees and sides of horses, the females depositing their eggs on the hair, to which they adhere by means of a glutinous fluid with which they are surrounded. In a few days the eggs are ready to be hatched, and the slightest application of warmth and moisture will liberate the insect which they contain; the horse in licking himself touches the egg, which bursts, and a small worm escapes,

which adheres to the tounge and is conveyed with the food into the stomach ; there it clings to the cuticular portion of the stomach by means of a hook on either side of its mouth, and its hold is so obstinate that it must be broken before it can be detached. It remains there feeding on the mucus of the stomach during the whole of the winter and until the end of the ensuing spring, when having attained a considerable size, and being destined to undergo a transformation, disengages itself from the cuticular coat, is carried into the villous portion of the stomach with the food, passes off with the chyme, and is evacuated with the dung. The bots cannot, while they inhabit the stomach of the horse, give him any pain, for they have fastened on the cuticular and insensible coat ; nor can they be injurious to the horse, for he enjoys the most perfect health when the cuticular part of the stomach is filled with them, and their presence is not even suspected until they appear at the anus. They cannot be removed by medicine because they are not in that part of the stomach to which medicine is usually conveyed, and even if they were their mouths are too deeply buried in the mucus for any medicine that can be safely administered to affect them ; and last of all, in due course of time they detach themselves and come away. Therefore the wise man will leave them to themselves, or content himself with picking them off when they collect under the tail and annoy the animal.

CALCULI, OR STONES IN THE INTESTINES.

These are sometimes a cause of inflammation in the bowels of the horse, but more frequently of colic. They are generally found in the caecum or colon, varying considerably in shape, and weighing from a few ounces to seventeen pounds in an extreme case. The causes of these formations are sometimes a button or a hair that gets twisted in a knot; other hair, sand and oat husks, then gets in until they form a solid lump. From the horizontal position of the horse's body the stone does not tend downward as in the human being, and it continues increasing until it becomes the source of a fatal irritation. When colic arises from stones or concretions in the intestines the pain is usually very severe, until by rolling about the stone is dislodged from the position in which it was fixed, and then becoming free the pain ceases. We may presume such to be the nature of the case if the horse lies much on his back and rolls over from side to side with an evident effort to relieve himself from some painful pressure. After repeated attacks of this kind the case becomes fatal, the calculus continuing to accumulate, and becoming firmly fixed, thereby obstructing all passage; inflammation supervenes and the animal dies. Treatment is out of the question, as it is impossible to reach the calculus, and if we did there is no medicine that will relieve it.

ENTANGLEMENT OF THE BOWELS.

This is produced by colic or inflammation of the bowels, and by the poisonous and abominable drinks of the farrier, and by other causes. When the animal rolls and throws himself about, portions of the intestines become so entangled as to be twisted into nooses and knots drawn together with a degree of tightness scarcely credible. Nothing but the extreme and continued torture of the animal can lead us to suspect that this has taken place, and when we ascertain its existence there is no cure.

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WORMS.

Worms of different kinds inhabit the intestines, but except when they exist in very great numbers they are not so hurtful as is generally supposed. The long white worm much resembles the common earth worm ; it is from six to ten inches long, and inhabits the small intestines. If there are too many of them they may consume more than can be spared of the nutritive part of the food or the mucus of the bowels.

SYMPTOMS.

A tight skin and rough coat and tucked up belly are sometimes connected with their presence ; they are then, however, voided in large quantities.

TREATMENT.

Give one tablespoonful of the following, twice a day for two weeks, in the oats :

Tartar Emetic	2 ounces.
Ginger	3 "
Sulphur	3 "
Nitrate of Potash	6 "

Mix well together.

A small, dark colored worm, called the needle worm, inhabits the large intestines. Hundreds of them sometimes descend into the straight intestine, and immense quantities have been found in the "blind gut." These are a more serious nuisance than the former, for they cause a very troublesome irritation about the fundament, which sometimes sadly annoys the horse. Their existence can generally be discovered by a small portion of mucus, which hardening, is found adhering to the anus. Give one teacupful of the following, once a day, in a warm bran mash, stirred well together :

Linseed Oil	2 quarts.
Spirits of Turpentine	6 ounces.
Ginger	3 "

Shake well together.

When there is much irritation about the tail, and much of this mucus, indicating that they have descended into the straight intestine, injections of tobacco smoke will remove them all in a few days.

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HERNIA, OR RUPTURE.

In the case of rupture a portion of the intestines protrudes from the belly, either through some natural or artificial opening ; in some cases it can be returned, but from the impossibility of applying a truss or bandage, it soon escapes again ; at other times the opening is so narrow that the intestine is gradually distended by dung or thickened by inflammation, and cannot be returned, and strangulated hernia is then said to exist. The seat of hernia is either in the testicle bag of the perfect horse, or in the groin of the gelding ; the causes are violent struggling when under operation, over exertion, kicks or accidents. Hernia occasionally appears at birth in the testicle bag ; the remedy consists in castration by the covered operation ; that is, without cutting into the hernial sac, but by placing wooden claws on the cord and the peritoneal membrane, and at the same time forcing the intestine gently upwards toward the abdomen. In the course of a few days, the testicles will slough off, or they may be removed, but I think it is best to let them slough off themselves, which will occur in a few days. When the hernia is strangulated, violent pain and great danger is the result. The opening through which the intestine has escaped is generally very small, being in fact the inguinal ring. In such cases if the hernia cannot be reduced by the hand, or the taxis, as it

is called, it is necessary to open sufficiently to put back the protruding intestine, an operation of great difficulty, and requiring much skill. Abdominal hernia may occur in a different situation, and is usually caused by external violence, such as the horn of a cow, or by jumping over and striking a part, etc. The muscular and other covering of the abdomen is broken through, while the skin, from its greater looseness, remains entire, and indeed is the only object between the bowels and the air. If the case is recent, the hernia may be reduced, and the hernial sac opened and the sides of the opening brought together by sutures of metallic wire. Where, however, the injury is of long standing, or natural, as for instance in mares when the abdominal ring is unusually large, we cannot succeed by this means, but yet the case is not always hopeless. The intestine should be forced back, an incision made in the skin, and one or more wooden skewers passed through, so that a good portion of the skin can be embraced by some strong waxed twine, the skewers preventing it slipping off the part thus held, which sloughs off and a cicatri is formed. The surrounding skin becomes tighter and thicker than before, sufficiently so to keep the intestine for the most part within the abdomen.

CHAPTER X.

Diseases of the Liver, Kidneys, etc.

RUPTURE OF THE LIVER.

HORSES dying when not more than five years old, of other complaints, usually show on dissection a healthy liver, but when they reach the age of eight or nine years, the liver is frequently increased in size, is less elastic, has assumed a more granulated or broken down appearance, the blood does not so rapidly pass through its vessels, and at length blood begins to ooze from it into its membraneous covering, or into the cavity of the belly. The horse meanwhile feeds well, is in good health and condition, and capable of constant work; but at length the peritoneal covering of the liver suddenly gives way and the contents of the abdomen are deluged with blood.

SYMPTOMS.

The symptoms of this sudden change are pawing, shifting the posture, distention of the belly, looking around to the right side with an anxious expression, but not indicative of severe pain; slight tenderness of the right side, curling of the upper lip, sighing frequently and deeply, the mouth and nostrils pale and blanched, the breathing quickened, with restlessness, debility, fainting and death.

TREATMENT.

Give the following every two hours, until two doses have been given; then every three hours until better; then feed on bran mashes for two or three days, when you may return to the usual feed:

Laudanum	2 ounces.
Sulphuric Ether	1 "
Tincture of Iron	½ "
Vinegar	½ pint.

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JAUNDICE.

This disease (commonly called yellows) is a more frequent, but more tractable disease; it is the introduction of bile into the general circulation, and is usually caused by some obstruction in the ducts or tubes that convey the bile from the liver to the intestines.

SYMPTOMS.

Yellowness of the eyes and mouth, and of the skin where it is not covered with hair, marks it plainly. The dung is small and hard, the urine highly colored, the horse languid, and the appetite impaired. If he is not soon relieved, he sometimes begins to express considerable uneasiness, at other times he is dull, heavy and stupid; a characteristic symptom is lameness of the right fore leg, resembling the pain in the right shoulder of the human being in liver affections. The principal causes are over-feeding, or over-exertion, in sultry weather.

TREATMENT.

Give twice a day one tablespoonful of the following powder in a hot bran mash:

Sulphate of Copper	4 ounces
Ginger	3 "
Vitriol of Potash	3 "

Mix well together.

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INFLAMMATION OF THE KIDNEYS.

Inflammation of the kidneys is not of so frequent occurrence as it formerly was, since most horse owners have abandoned the very injurious practice of frequently giving horses nitre or rosin, or something of that kind, to keep their water right. There is no more necessity for giving a horse medicine to regulate his water, than there is for giving

it to a man. Inflammation of the kidneys, however, is produced by other causes, such as feeding musty hay or musty oats, or by breathing bad and foul air.

SYMPTOMS.

The symptoms are a straddling gait, humped up back, flinching when there is pressure made on the back, frequent turning of the head around toward the hind parts, a hard and quick pulse, short and quick breathing and scanty urine, and refusing to turn short around in the stable.

TREATMENT.

Once in three hours give the following till better :

Laudanum ....1 ounce.
Sulphuric Ether ....1 "
Linseed Tea ....1 pint.

Then apply to the back cloths rung out of hot water, twice a day. After applying the hot cloths, rub with the following liniment twice a day :

Camphorated Spirit.....4 ounces.
Sweet Oil..... .... 3 "
Choloroform .....2 "
Shake well together and apply enough to moisten the skin

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DIABETES, OR PROFUSE STALING.

Diabetes is a comparatively rare disease ; it is generally the consequence of undue irritation of

the kidneys by bad food or strong diuretics, and sometimes follows inflammation of that organ.

SYMPTOMS.

At first there is a copious flow of thin watery urine; afterwards a lentescent fever supervenes, the animal grows thin, the appetite decreases, his thirst increases, the urine becomes darker and more painful, bloody, and sometimes quite cold, even at the time of voiding it. Sometimes several animals are attacked at the same time, in which case it can be traced to the feed.

TREATMENT.

Give the following drink once in three hours till better (then remove the cause):

Laudanum	1 ounce.
Tincture of Iron	1 "
Tincture of Myrrh	½ "
Water	1 pint.

Shake well together and drench.

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BLOODY URINE.

The discharge of urine of this character is of occasional occurrence. Pure blood is sometimes discharged, but it immediately coagulates; at other times it is more or less mixed with the urine and does not coagulate. The cause of its appearance and the source whence it proceeds, cannot always be determined, but it is probably the result of

some strain or blow ; it may or may not be accompanied by inflammation. Should it be the result of strain or violence, or be evidently attended by inflammation, the treatment is the same.

TREATMENT.

Give the following drink once a day till four dose have been given :

Tincture of Iron ..... .1 ounce.
Laudanum..... 1 "
Ale..... .1 pint.

After the foregoing has been administered, give a tablespoonful of the following powder in a hot bran mash twice a day :

Ginger..... .6 ounces.
Gentian..... .4 "
Blood Root..... .3 "
Tartar Emetic ..... .2 "
Sulphate of Magnesia..... .4 "
Mix well together.

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INLFAMMATION OF THE BLADDER.

Inflammation of the bladder is not very common, and is usually produced by irritants of a mechanical or chemical nature, as when the kidneys secrete a highly irritating urine the bladder suffers in its passage, and we have the two organs inflamed at the same time. Again, the bladder is liable to become inflamed when cantharides have been given with a view to stimulate exhausted

nature, or when they are absorbed from the surface of the skin, as sometimes happens in blistering.

SYMPTOMS.

In inflammation of the bladder there is frequent voiding of urine in small quantities mixed with mucus, or in aggravated cases with purulent matter; a quick pulse, pain in the hind quarters, evinced by the looks the animal sends in that direction, shivering, cold sweats, and death.

TREATMENT.

Give the following once in two hours till better:

Sulphuric Ether .....1 ounce.
Laudanum.....1 "
Warm Water.....1 pint.

Give warm injections and apply cloths rung out of hot water to the back and sheath; the worst cases will yield to this treatment.

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STONE IN THE BLADDER.

Calculi in the bladder are formed of earthy salts, and present various forms and appearances, which may be comprised under four divisions: first, the mulberry calculus, so named from its resemblance to a mulberry, possessing generally a nucleus; second, a very soft kind, resembling fuller's earth in appearance, and being chiefly composed of phosphate of lime and mucus; third,

calculi of a white or yellowish color, rough externally, and easily friable; and fourth, those which are composed of regular layers, and which are harder than the second and third varieties. The mulberry calculus from its extremely rough surface occasions more irritation than other forms; but during life it is impossible to ascertain the exact chemical nature of the calculus which may be ascertained to exist. These calculi sometimes attain an immense size, weighing from a few grains to several pounds.

SYMPTOMS.

The symptoms are a difficulty of voiding the urine, which generally comes away in jerks, after great straining and groaning. The horse remains with his legs extended for some time afterwards, and evidently indicates that he feels as if his bladder was not relieved. Often there is muco-purulent matter mixed with the urine, which is rendered thick and glutinous thereby, but this only happens in cases of long standing.

TREATMENT.

To be sure that there are calculi in the bladder, throw the horse and introduce the hand and arm through the rectum. After rolling him on his back, if there is stone in the bladder you can feel it; if there is a stone there it must be removed before a cure can be expected. Give 2 ounces of laudanum

and 1 ounce of ether ; that will ease the pain till you abstract the stone. In cutting for the stone the horse is cast and turned on his back and supported in that position ; a whalebone or wooden staff is then passed up the urethra, and when it is felt at the perineum, just under the anus, cut down upon it. A pair of forceps is next passed through the wound thus made into the bladder, with which the calculus must be removed. The bladder then should be washed out with tepid water and the wound sewed up, and in a week or two the horse will be all right.

CHAPTER XI.

Diseases of the Organs of Generation.

BALANITIS, or inflammation of the glans-penis, is very common in the horse, being brought on by the decomposition of the natural secretions when they have been allowed to collect for any length of time. At first there is merely a slight discharge of pus, but in process of time foul sores break out, and very often fungus growths spring from them which block up the passage through the opening of the sheath and cause considerable swelling and inconvenience; these are quite distinct from warts, which occur in these parts just as they do in other situations.

TREATMENT.

Give twice a day in the water, 1 ounce of wine of iron, this will set him all right in two or three

weeks. In the mare the vagina is sometimes inflamed with a copious yellow discharge, an injection of the following will soon set all the matter right:

Chloride of Zinc..... .....2 grains.
Water..... ....2 ounces.
Mix.

The inversion of the uterus sometimes follows parturition, but it is very rare. When it does occur it should be at once replaced, using as little force as possible, and taking care before the hand is withdrawn that it really is turned back again from its inverted position.

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STOPPAGE OF THE WATER, OR SPASM OF THE URETHRA.

This disease has been frequently mistaken for colic or inflammation of the kidneys, but the symptoms are quite different. In cases of colic or inflammation of the kidneys, stoppage of water is not so frequent a difficulty as is supposed by most horse owners.

SYMPTOMS.

It is easy to detect an animal with stoppage of water, from the wide spread legs or straddling movement; the absence of any discharge of water, but the repeated effort, attended with pain; and the frequent looks he casts at his hind parts. At length he throws himself down with great force,

rolls, starts up all at once and throws himself down again with greater violence. As the disease proceeds the pain becomes more intense, the horse more violent, and at length death ensues.

TREATMENT.

Give the following, once in two hours, until beter:

Laudanum	2 ounces.
Sulphuric Ether	2 "
Warm Water	1 pint.

Then apply hot cloths to the loins and sheath. If it is a horse, put a little pepper up the penis; or if a mare, in the vagina, and they will make water in a few minutes. There is no use of a catheter or any other instrument.

CHAPTER XII.

Accidents and Diseases of the Fore Legs.

SPRAIN OF THE SHOULDER.

THE muscles of the shoulder are occasionally injured by some severe shock. This is effected oftener by a slip or side fall, than by fair although violent exertion. It of considerable importance to be able to distinguish this shoulder lameness from injuries of other parts of the fore extremities.

SYMPTOMS.

If standing before the horse and looking at the size of the two shoulders, or rather their points, one should appear evidently larger than the other, this must not be considered as indicative of sprain of the muscles ; it probably arises from bruise of the point of of the shoulder, which a slight examination will determine. In sprain of the shoulder

the horse evidently suffers extreme pain while moving, and the muscles underneath being inflamed and tender, he will extend it as little as possible, and will drag his toe along the ground. It is in the lifting of the foot that the shoulder is principally moved; if the foot is lifted high let the horse be ever so lame, the shoulder is little if at all effected; for in shoulder lameness the toe alone rests on the ground. The circumstances which most of all characterize this affection are that when the foot is lifted and brought considerably forward the horse will express very great pain, which he will not do if the lameness is in the foot or leg.

TREATMENT.

Put a rowel close under the arm that is affected and leave it there until it discharges freely; then apply daily to the shoulder the following liniment; just enough to moisten the skin is sufficient:

Alcohol	4 ounces.
Camphor Gum	2 "
Tincture of Cantharides	2 "
Vinegar	4 "

Apply the above to the shoulder; it never fails to effect a cure.

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CAPPED ELBOW.

This is an enlargement of the joint on the forward leg, nearest the body, called the elbow joint. It is produced by a bruise, and is frequently

caused by resting that part on the shoe of the hind foot while lying down.

TREATMENT.

A good many veterinary writers say the only way to get rid of capped elbows is to cut them out. The only reason why they recommend that treatment is because they don't know any other way. If the tumor is very large and matterated, open it on the under side, and in three days inject in it tincture of iodine, once a day, until better. If the tumor is not matterated, apply the following blister once a day, for three days, and then leave off for one week, and if there is any enlargement, apply it again; it rarely has to be applied more than twice:

Cantharides	2 ounces.
Iodine	½ "
Lard	8 "

Mix well together.

Merely grease the lump with the ointment, rubbing it in well with the hand.

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INJURIES OF THE KNEE.

The knees are subject to a variety of injuries, mainly from falls; sometimes the wound is large and apparently formidable, and it is yet but an ordinary wound, readily healing with common treatment.

TREATMENT.

If the skin is not broken the application of the following lotion will set it all right in a few days :

Vinegar.....1 pint.
Water.....1 "
Spirits of Wine.....4 ounces.

If the skin is broken and loose below the wound, make a hole through the skin at the lower part that is loose, so that there may be a free discharge there ; then apply the following, three times a day, with a feather ; do not stitch the skin that is hanging loose, if you do it will leave a blemish, and will take longer to heal :

Chloride of Zinc.....20 grains.
Water.....10 ounces.
Shake well before using.

The above treatment is all that is required with any injury to the joints, even though the joint oil may discharge ; this treatment, properly applied, will stop it in a few days.

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RHEUMATISM IN THE KNEE.

Rheumatism occasionally affects the knee, and will be known by the part swelling, and the horse coming out of the stable holding the limb off the ground ; it will be very warm and tender. Apply cloths rung out of hot water, and afterwards use the following liniment, once a day, till better :

Ammonia.....2 ounces.
Spirits of Wine.....4 "
Camphor Gum.....2 "
Spirits of Turpentine.....2 "
Shake well before using.

KNEE TUMORS.

The knee is sometimes affected with bony tumors that grow on the inside of the limb, occasionally reaching the size of a goose egg, producing considerable lameness. The causes of this are hard driving, jumping over fences, or striking the knee against the manger, etc.

TREATMENT.

Apply the following, once a day, for three days, and then grease; after the scab comes off, apply as before until better:

Camphor Gum.....1 ounce.
Iodide of Mercury.....1 "
Lard.....8 "

Mix well together and apply; rub well in with the hand, a piece about the size of a hickory nut.

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SPEEDY CUT.

The inside of the leg, immediately under the knee, and extending to the head of the inner splint-bone, is subject to injury from what is termed the speedy cut. A horse with high action in the fast trot violently strikes this part either with his hoof or with the edge of the shoe, and sometimes bony enlargements are the result; at other times great heat and tenderness, and the pain from the blow seems occasionally to be so great that the horse drops as if he were shot.

TREATMENT.

The only remedy is to take care that no part of the shoe projects beyond the foot, and to let the inner side of the shoe have but one nail, and that near the toe. This part of the hoof being unfitted with nails, will expand when it comes in contact with the ground, and contract when in the air, and relieve the leg from the pressure of the whole of the body, and although this contraction is to no great extent, it will be sufficient to carry the foot harmlessly by the leg. Care should be taken that the shoe is of equal thickness at the heel and at the toe, and that the bearing is equal on both sides.

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SHOULDER JAM, OR SWEENY.

What is usually understood by shoulder jam, or sweeny, is the wasting of the muscles of the shoulder; it is caused by lameness in the foot or knee, or by standing with one foot lower than the other, or by pawing with one foot more than the other; or it may be caused, perhaps, from founder, or by the collar being too large, or jumping over fences, etc. If the foot is the seat of lameness, remove the lameness and the shoulder will be all right without doing anything to it; but if the shoulder is wasted, and the animal is lame and stiff, and there seems to be no particular cause for it, use the following:

TREATMENT.

Rowel the breast; then take the skin up with the fingers on the shoulder and twist a small bladed knife through it, then pull the skin from the shoulder, and that will draw the air in; then work it down the leg with your hand, until you go all over the shoulder. Afterwards, apply once a day enough of the following to moisten the skin:

Ammonia	2 ounces.
Turpentine	2 "
Spirits of Wine	6 "

Shake well before using.

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SPLINT.

Splint is invariably found on the outside of the small bones, and generally on the inside of the leg. The inner bone receives the whole weight transmitted to the small bone of the knee, and the absurd practice of many smiths in raising the outer heel of the shoe to an extravagant degree, throws still more of the weight of the horse on the inner splint bone. Bony tumors occasionally appear on other parts of the shank bone, being the consequence of violent blows or other external injuries, and they are also commonly called splints.

TREATMENT.

When the splint of either sort is forming, the horse is frequently lame, for the periosteum or

covering of the bone is painfully stretched; but when this membrane has accommodated itself to the tumor that extended it, the lameness subsides or altogether disappears. When treating splints of either sort, the hair should be cut close and a lump of this salve the size of a bean be rubbed in with the fingers, for three days; then wash and grease. In a week, if there is any bunch left, apply as before.

Iodine.....1 ounce.
Lard..... 8 "
Iodide of Potassium.....1 "
Mix well together.

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SPRAIN OF THE BACK SINEWS.

These tendons are enclosed in a sheath of dense cellular substance in order to confine them in their situation, and to defend them from injury; between the tendon and the sheath there is a mucus fluid to prevent friction, but when the horse has been over-worked, or put to sudden or violent exertion, the tendon presses upon the delicate membrane lining this sheath, and inflammation is produced; a different fluid is then thrown out, which coagulates, and adhesion is produced between the tendon and the sheath, and the motion of the limb is more difficult and painful. At other times, from violent or long-continued exertion, some of the fibres which confine the tendons are ruptured.

A slight injury of this nature is called a sprain of the back sinews or tendons, and when it is more serious the horse is said to be broken down. It should be remembered, however, that the tendon can never be sprained, because it is inelastic and incapable of extension, and the tendon or its sheath are scarcely ever ruptured, even in what is called broken down. The first injury is confined to inflammation of the sheath, or rupture of a few of the attaching fibres.

SYMPTOMS.

The symptoms are a partial or entire giving way of the fetlock joint downwards, so that the back of it either touches the ground, or nearly so, when the weight is thrown upon it; usually, however, after the horse is pulled up he hops on three legs, and refuses altogether to put that which is broken down to the ground; in a very few minutes the leg fills at the seat of the accident, and becomes hot and very tender to the touch.

TREATMENT.

Apply cold water three or four times a day, or what is still better, vinegar 1 quart, alcohol 6 ounces, water 1 pint; apply over the injury three times a day, and bandage with flannel. When the inflammation has subsided a mild blister may be applied. The following is a very good one:

Tincture of Iodine	2 ounces.
Alcohol	6 "
Spirits of Turpentine	2 "

After the blistering the horse should have at least a six months' run at grass, and that will be all that is required for the cure of this injury.

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WIND GALLS.

In the neighborhood of the fetlock there are occasionally found considerable enlargements, oftener on the hind leg than on the fore one, which are denominated wind galls. Between the tendons and other parts, and wherever the tendons are exposed to pressure or friction, and particularly about their extremities, little bags or sacs are placed, containing and suffering to ooze slowly from them a mucus fluid to lubricate those parts, and relieve them from the undue pressure frequently caused by violent action and straining of the tendons ; or often caused by predisposition in the horse. If these little sacs are injured they take on inflammation, and sometimes become large and hardened ; there are few horses perfectly free from them. When they first appear, and until the inflammation subsides, they may be accompanied by some degree of lameness ; but otherwise, except when they attain a great size, they do not interfere with the action of the limb, or cause any considerable unsoundness. Owners of horses formerly supposed they contained wind, hence the name wind galls, and the practice of

opening them, by which dreadful inflammation was often produced, and many a valuable horse destroyed.

TREATMENT.

A slight windgall will scarcely need any treatment, but if they are numerous and large, and seem to impede the motion of the limb, they may be subjected to bandages and cooling applications, such as the following: Alcohol 6 ounces, vinegar 1 pint, water 1 pint. Shake well, and apply before bandaging. The bandage should be of flannel, and soft pads should be placed on each of the enlargements and bound down tightly upon them; the bandage should also be wetted with the above lotion; the wind gall will often diminish or disappear by this treatment, but will sometimes return when the horse is again hardly worked. A blister is a more effectual remedy; apply as follows: Take a lump, the size of a kidney bean, and rub it well in with the fingers once a day, for three days; then leave off and bandage. The following is the best blister known for wind galls:

Mercurial Ointment.....4 ounces.
Iodine.....1 "
Mix well together.

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INJURIES TO THE SUSPENSORY LIGAMENT.

The suspensory ligament is sometimes strained, and even ruptured, by extraordinary exertion. The sessamoids, which in their natural state are

suspended by it, and from which function its name is derived, are in the latter case let down, and the fetlock almost touches the ground. This is generally mistaken for the rupture of the flexor tendon, but one symptom will sufficiently demonstrate that it is the suspensory ligament which is concerned, viz: That the horse is able to bend his foot. Rupture of this ligament is a bad and almost desperate case; the horse is frequently lame for life, and never becomes perfectly sound.

TREATMENT.

Keeping him altogether quiet, bandaging the leg, and putting a high heeled shoe upon the foot affected, will afford the most probable means of relief.

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SPRAIN OF THE FETLOCK.

The fetlock joint is a very complicated one, and from the stress which is laid on it, and its being the principal seat of motion below the knee, it is particularly subject to injury. There are not many cases of sprain of the back sinew that are not accompanied by inflammation of the ligaments of this joint; and numerous supposed cases of sprain higher up are simple affections of the fetlock; it does not require a great deal of experience to distinguish the one from the other.

SYMPTOMS.

The chief symptom of sprain of the fetlock joint is swelling, heat, soreness to the touch, and lameness; it may be slight or very severe, but in the latter case it is generally complicated by strains of the back sinews or suspensory ligament.

TREATMENT.

The leg should be fomented twice a day in hot water, and then bandaged below; use this treatment for five days, and then apply cold water and bandage as before; then apply enough to moisten of the following liniment twice a day, bandaging after the rubbing:

Alcohol	6 ounces.
Camphor	2 "
Chloroform	2 "
Vinegar	6 "

After the lameness subsides he should have six weeks' or two months' rest.

CHAPTER XIII.

Diseases and Injuries of the Hind Legs.

INJURIES OF THE THIGH.

THE thigh bone is long and cylindrical, taking an oblique direction from above downwards, and from behind forward. At its upper extremities and projecting from the body, is a thick, flattened neck, terminating in a large smooth hemispherical head, adapted to a hollow in the superior point of the haunch; this bone is commonly called the round bone; it has in some rare instances been dislocated and fractured. It is not, as many imagine, subject to sprain. If there is a sprain, it is of the muscles and not of the joint.

SYMPTOMS OF SPRAIN AND FRACTURE.

All fractures will be spoken of in their proper place, with their treatment; this one will only be

spoken of here to explain the difference between fracture and sprain. If it is fracture of the thigh bone the animal will drag the leg after him ; there will be heat and swelling about the part, tenderness and fearfulness of the slightest motion ; by the movement of the limb a crackling noise will be made, and these symptoms will be the same in fracture of any of the bones above the hock joint. If it is a sprain, the leg will swell and cannot be moved without considerable pain, unless it is a very slight sprain indeed ; and when you take the leg in your hand and move it towards the head you cannot hear any crackling noise, which is a proof that it is not a fracture.

TREATMENT.

An injured part so deeply situated is treated with difficulty ; fomentations should at first be used to abate the inflammation, and after that an active blister should be applied. Strains of these parts are not always immediately relieved, and the muscles of the limb, in some cases, waste considerably. It therefore may be necessary to repeat the blister, while absolute rest should accompany every stage of the treatment. After the lameness disappears the horse should be turned out to grass for two or three months.

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THE STIFLE AND ITS INJURIES.

It has usually been supposed by horse owners that the stifle joint is very liable to get out of

place—what is called being stifled—and I have seen much cruelty practised on horses by placing what is called a stifle shoe on the well side, and causing them to stand on the lame leg. This is a very cruel and barbarous practice, and should never be allowed; for such a thing as getting the stifle out is impossible; any person can be convinced of this by merely dissecting the stifle joint of a horse. It may sometimes get bruised or cut, which may readily be known by the swelling and inflammation that will follow, and should be treated the same as any other bruise or cut. If for a bruise, apply hot cloths, and then use the following twice a day until better:

Chloroform	2 ounces.
Alcohol	6 "
Camphor Gum	2 "
Water	1 pint.

The stifle joint is made almost exactly like the knee joint of a man, with the knee cap in front, called the patella; this patella may sometimes get out of place, but that is not frequent. It may readily be known by the limb extended backwards. It is impossible for the horse to bring it forward, or to bear the least weight on the limb. When it gets out of place the patella always slips to the outside so that it may readily be seen, there being a large lump on the joint. When this does occur put a rope around the ankle of the limb and let one man take hold of it and stand in front of

the horse and pull steadily, while the operator stands by the side of the animal and pushes it into its place, and holds it there for a short time with his hand. Then apply the following liniment once a day for four or five days. If it is the first time it may never trouble him again, but if the patella laxates the second time, apply the liniment oftener ; enough to moisten the skin should be used :

Tincture of Iodine	2 ounces.
Alcohol	4 "
Spirits of Turpentine	2 "

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BOG SPAVIN AND THOROUGHPIN.

The hock is a most important joint, occasionally the evident, but much oftener the unsuspected seat of lameness. The proper formation of this joint is essentially connected with the value of the horse, for it answers to the ankle in the human being.

Bog spavin is a soft enlargement on the front and inner side of the hock joint, and is caused by some injury that produces slight inflammation, and that increases the supply of the senovial fluid or joint oil, which lodges in a sac. Sometimes by pressing on the enlarged part with the hand, it will show through on the side of the joint, or by pressing on the side it will show through on the other side ; it is then called thoroughpin. These affections may occur independently, but more frequently they are found together.

TREATMENT.

Many veterinary writers recommend bandages and trusses, some one thing and some another, and at last they say it cannot be cured, but I have never failed to cure a case when put in my hands in time. Take a lump of ointment of mercury of the size of a hazle nut, and rub on the enlargement once a day until better; then apply cold water for a week.

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ENLARGEMENT OF THE HOCK.

This affection is produced by inflammation or sprain of the hock joint, generally arising from sudden, violent concussion by some check at speed, or by over-weight, and is attended with enlargement of the whole joint, and great tenderness and lameness.

TREATMENT.

Give rest and apply warm fomentations twice or three times a day for three days; then apply cold water for six or seven days. After this use the following once a day, and at the end of two weeks give gentle exercise. This is all that will be required to complete the cure:

Vinegar.....1 pint.
Spirits of Wine.....6 ounces.
Water .....6 "
Shake well before using.

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CAPPED HOCK.

The point of the hock is sometimes swelled, and a soft fluctuating tumor appears on it. This is an enlargement of one of the mucus bags that surround the tendons at the point of insertion into the hock; it is seldom accompanied by lameness, and yet it is a somewhat serious business, for it is usually produced by blows, and mostly by the injuries which the horse inflicts upon himself in the act of kicking against the stall post. In fact this is in nearly every case the cause of this disease.

TREATMENT.

Apply once a day for three days the following ointment, well rubbed in, enough to well cover the swoolen part, then wash off and grease. After two weeks, if there is any enlargement, apply it again, and so on until the swelling is removed. It will not require but two or three applications to accomplish a cure:

Red Iodide of Mercury.....½ ounce.
Lard.....4 "
Cantharides, in Powder.....¼ "
Mix well together.

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CURB.

Curb is enlargement at the back of the hock, three or four inches below its point. It is a strain of the ring-like ligament which binds the tendons

in their place, or of the sheath of the tendons; oftener, however, of the ligament than of the sheath.

SYMPTOMS.

Curbs are generally accompanied by considerable lameness at their first appearance; but the swelling is not always great; they are best detected by observing the leg sideways. The cause of curb is any sudden action of the limb of more than usual violence. Therefore horses are found to throw out curbs after a hard contested race, an extraordinary leap, a severe gallop over heavy ground, or a sudden check in the gallop; all of these will bring on curbs.

TREATMENT.

If the curb is just forming, apply cold water twice a day, for two or three days; then use the following salve, a piece as large as a marble, once a day, for three days more; then wash off and grease. After the scab is off, if there is any enlargement, apply as before:

Red Iodide Mercury..... ½ ounce.
Lard..... 4 "
Mix well together.

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BONE SPAVIN.

Bone spavin is the result of some injury to the joint. Some writers suppose it to be hereditary, but that is not the case, because there is not one single horse, mare or stallion, that has spavin, but

the owner knows how, when and where the horse was when affected ; he can tell you that he drove him very fast, or that he had pulled him hard, or that he saw him slip while driving. There never was a foal born with a spavin. Some persons will say, I saw a colt running with the mare, and I know that it had a spavin. I don't doubt it, for it might be running in the pasture and have sprained the joint to an extent that would bring on a spavin.

SYMPTOMS.

To examine for a spavin always go in front of the horse and stoop down so as to look through between the forward legs at the hind legs, having the hind legs as near alike in position as possible ; then compare the two together, and you can detect the spavin, if any exists ; when it is not perceivable in any other way, if you do not see any enlargement, place your hand on the joint, let it rest a moment, and see if you cannot detect a little more heat than there should be. If not yet satisfied, have the horse led along on the level ground and notice his step ; if he does not step as far ahead as he does with the other leg, you may be sure that the lameness is in the spavin joint, and a spavin will undoubtedly be the result if not cured.

TREATMENT.

Apply hot fomentations to the hock joint or the spavin twice a day, for a week; then the following lotion twice or three times a day, for five or six days:

Vinegar.....4 ounces.
Spirits of Wine.....6 "
Camphor Gum.....2 "
(Cut the camphor in the wine before mixing with the others.)
Water.....4 ounces.
Chloroform.....2 "

After the lameness has passed away apply a piece of the following salve, about the size of a hickory nut, once a day, for three days; then wash off and grease every few days until the scab comes off. If he is yet no better, apply as before. This will never fail, unless it is a very large spavin, and has been on a long time; in that case it will help, but not cure it.

Red Iodide of Mercury.....½ ounce.
Lard.....4 "
Mix well together.

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SWELLED LEGS.

Horses in high condition and high fed, or when taken from grass, are liable to have swelled legs, caused by a want of proper circulation. The hind legs are more subject to this than the fore legs, on account of their being so far away from the center of circulation, and they are therefore the first to

show the loss of power by the accumulation of fluid in them, suddenly swelling to an enormous size, sometimes in a single night. The horse will sometimes refuse to eat or walk, or lie down, while at other times he will not be lame, and will be apparently enjoying good health.

TREATMENT.

Give the following powder in his feed twice a day ; then put a rowel in his breast and lance the enlarged legs, giving the animal a loose box stall and gentle exercise, and he will be all right in a few days :

Nitrate of Potash	4 ounces.
Ginger	4 "
Gentian	2 "
Anise Seed	1 "
Emetic Tartar	1 "

Mix well together and give one tablespoonful twice a day in the feed.

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SCRATCHES.

The cause of scratches is neglecting to keeping the stable and legs clean, or exposure in cold or wet weather, or running on low wet ground.

SYMPTOMS.

The legs will swell and be quite sore ; they will crack open just behind the heels, and in a few days there will be found a greasy substance running out of the sore ; it is then called grease heels.

The treatment of scratches and grease is about the same, only grease heel takes a longer time to cure than scratches.

TREATMENT.

Give the following powder, one tablespoonful, once a day, in the feed:

Nitrate of Potash..... ....4 ounces.
Ginger..... .....4 "
Sulphur..... ...3 "
Mix well together.

Wash the heels clean with warm water and castile soap; then apply the following lotion three times a day with a sponge, and in a few days the heels will begin to heal, and the horse may have gentle exercise:

Carbolic Acid ....1 ounce.
Water ....1 pint.
Shake well before using.

CHAPTER XIV.

Accidents and Diseases of the Foot.

CRACKED HOOF.

CRACKED hoof when on the front, is called toe crack; and when on the side is called quarter crack. It may extend from the bottom to the top, or it may be only half way.

TREATMENT.

If the crack is only just started, take a knife and cut across the crack close up to its top so as to start it in growing together again; if it is clear across the foot and spreads open when the horse puts his foot to the ground, the edges of the hoof should be cut thin, and a strong shoe put on; then take tarred rope and wind around the foot, commencing at the heel close down to the shoe, winding one strand above the other until you get to the top of the hoof. Then fasten the end so that it will not get loose, and take a hot iron and burn across the

top of the crack. Then apply daily the following with a brush all over the hoof:

Linseed Oil	6 ounces.
Oil of Tar	3 "
Spirits of Turpentine	2 "

When the shoe is removed, if the cord is loose, it should be tightened, and in two to three months the hoof will be all right.

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FEVER IN THE FEET, COMMONLY CALLED FOUNDER.

The causes of this are hard driving on hard or rough roads, or driving until the animal is warm, and then letting him stand in a draft of wind; or feeding or watering when he is too warm.

SYMPTOMS.

Sometimes the horse will refuse to eat, and sometimes he will eat as if nothing was the matter; he will stand lifting first one foot and then the other; his hind legs will be well under him in order to take as much as possible of his weight off the front feet; so that in walking he seems to be quite stiff all over, while he really is not. He will lie down a great deal of the time; the breathing is labored, the pulse is up to sixty-five. Place your hand on the feet and you will find them quite hot. There is another way to tell, which never fails; that is to take a hammer and knock on the hoof; if he is affected with fever in the feet he will show symptoms of great pain.

TREATMENT.

Give the following medicine in a drench :

Barbadoes Aloes ....6 drachms.
Ginger..... .....4 "
Linseed Oil ....1 pint.
Laudanum..... .... 1 ounce.
Sulphuric Ether..... ....1 "
Mix, and give in one dose.

Then take the shoes off and bleed in the saphena vein, just one inch above the wart; the quantity should be two quarts from each leg. Then stand both feet in a foot bath filled with hot, but not scalding water, enough to cover the fetlock joint; let the horse stand in this three hours, and then poultice both feet and change twice a day, for four days. Now tie a woolen cloth around the ankle just above the hoof, and let it hang over the hoof, wetting it with cold water twice a day, for four days, and then put on the shoes. After this let him run to grass for three weeks, and he will be entirely over it, so that the best judge in the world cannot tell that he ever had fever in the feet.

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CONTRACTED FEET.

The causes of contracted feet are generally inflammation in the feet; or bad shoeing, such as cutting more off the toe than off the heel, having the heels of the shoe too narrow; or letting the shoes be on too long; any of these will cause contraction of the hoof.

SYMPTOMS.

The horse will travel at first a little stiff, and when stopped will put out one of the feet, if only one is affected ; if both are affected he will put out one foot first, then draw it back and put out the other ; the longer he is allowed to go without attention the worse he will be, until he is quite stiff or lame.

TREATMENT.

When shoeing him have the foot cut down to the shape of a colt's foot. If you look at a colt's foot you will find that the heel is close to the ground, so that the hair on it nearly touches the ground. Now you will find that a horse affected with contracted hoofs has from two to three or three and a half inches of hoof at the heel, which raises it and lowers the toe, which in time will cause any horse to be lame. Have the most of this heel cut off, but very little of the toe ; then cut out the bars until they nearly bleed, and fit the shoe to the foot ; fit it level all around the hoof, and do not have the heels of the shoe pressing against the frog, but have it wide enough to allow the frog to spread between the sides of the shoe ; before you nail the shoe on cut out the toe of the hoof about two inches wide, and enough so that when the shoe is on you can put a knife blade between the hoof and the shoe ; then nail the shoe on and leave the last nail out on the inside at the heel. Then apply the following liniment once a day, enough to

moisten the hoof well; and in a week or ten days the horse will be all right.

Raw Linseed Oil	1 pint.
Oil of Tar	6 ounces.
Spirits of Turpentine	3 "

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PUMICED FEET, OR LAST STAGE OF FOUNDER.

Pumiced feet are caused from the intensity of the inflammation of founder, and invariably follows inflammation of the feet or a prick in the sole of the foot.

SYMPTOMS.

Pumiced feet will be known by the horse being very lame, and not resting much of his weight on the foot; sometimes he will go on three legs. On lifting up the leg you will find the bottom of the foot bulged out, and in some cases it will feel soft when you press upon it. In very bad cases the point of the coffin-bone will press out of the bottom of the sole; but this is only in extremely bad cases. The coffin-bone recedes from the crust, and between the crust and coffin-bone there is a horny substance which speedily fills the space between them, and presses the coffin-bone through the sole, causing the horse to walk on his heels. In some cases the front of the foot will be found to be flat and somewhat hollow.

TREATMENT.

There is no way to effect a cure when it has got to this stage; all that can be done is by shoeing.

and this will only do when the animal is not very bad. If the coffin-bone is through the sole, the best way would be to destroy the animal at once; if he is not very bad it will be well to try a bar shoe, and it should be hollowed out so that it will not press on the sole in the slightest degree, and a rim of leather should be put under the shoe to diminish concussion. Do not cut off much of the hoof, but let it grow down so that it will save the sole, and the shoe should not be allowed to stay on over three weeks before it is removed. The hoof should be frequently anointed with the following mixture:

Oil of Tar	4 ounces.
Fish Oil	6 "
Linseed Oil	6 "
Spirits of Turpentine	2 "

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NAVICULAR JOINT LAMENESS.

Navicular disease is caused by stepping on a round stone and rolling forward, by slipping on ice, by over-reaching, by strain, or by a sudden jar. The joint called the navicular joint is behind and beneath the lower pastern bone, and behind and above the heel of the coffin-bone; it is so placed as to strengthen the union between the lower pastern and the coffin-bone, and to enable the flexor tendon, which passes over it in order to be inserted into the bottom of the coffin-bone, to

act with more advantage ; the strain sometimes is so great that the navicular bone is fractured.

SYMPTOMS.

A horse with navicular lameness in severe cases will hold his leg up and will be afraid to put it to the ground, and when he travels will get worse instead of better ; in some cases he will put the foot out and rest on the toe. By examining the foot you will discover that there is an enlargement at the heel, and the flexor tendon is swollen and tender to the touch ; by pressing with the thumb on the heel the horse will flinch ; then you may take the symptoms as indicative of navicular lameness.

TREATMENT.

Use cold applications by tying a woolen cloth around the fetlock joint, and keeping it wet with cold water for three or four days ; this will take out all the inflammation ; then apply enough of the following liniment to thoroughly cover the affected part, once a day, until better. You do not want to blister the coronet or the heel, for if you do you will get up inflammation, which is the very thing to avoid in these cases :

Alcohol	6 ounces.
Camphor	1 "
Beef Gall	2 "
Laudanum	2 "
Sweet Oil	2 "

In a week or ten days the horse will be all right ; I never had one that lasted over ten days.

OVER-REACHING.

This is caused by the horse stepping the hind feet on the heels of the fore feet, sometimes to such an extent as to throw the horse. It is sometimes caused by the horse interfering, and to avoid that he strikes the front feet.

TREATMENT.

If the cause is interfering, apply a blister between the hind legs, and while it is sore he will step wide apart; applied two or three times, he will learn to go better. If the cause is not that, but that he does not get his fore feet out of the way of the hind feet, buckle a round strap around the fetlock joint loosely, so that it will play up and down the joint; that will make him get his front feet out of the way, and in a month he will travel all right.

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QUITTOR.

Quittor is a running sore in the foot that discharges at the coronet, caused by getting graveled, by having the foot cut by the calk of the shoe on the other foot, by a severe bruise, or by being pricked with a nail in shoeing; or indeed by anything that injures the foot so as to cause matter to accumulate; not having a free discharge, it burrows deeper and deeper, forming pipes that branch off in different directions.

SYMPTOMS.

The first appearance of quittor is a large swelling around the top of the foot, very hot and tender, causing severe lameness.

TREATMENT.

At first poultice the foot until it becomes soft and much of the lameness has been removed ; then open it with a knife ; make the cut so as to let the matter out, and inject into the quittor three times a day, a moderate quantity of the following: Chloride of zinc 20 grains, water 5 ounces. If it is of long standing, and pipes are formed, (which can be known by taking a small quill and making it smooth and probing the sore, being careful to examine all around) take corrosive sublimate 20 grains, tincture myrrh 2 ounces, and inject as before, twice a day.

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PRICKS OR WOUNDS IN THE SOLE OR CRUST.

Pricks or wounds in the sole or crust are of two kinds, namely : those actually penetrating the sensitive structures, and those where the nails do not actually penetrate the sensitive parts, but are driven so near as to cause bulging of the inner layer of horn and pressure upon the sensitive interior, leading on to inflammation and great lameness, with or without suppuration.

TREATMENT.

If the horse is lame from the effects of a nail in the foot, the first step in the treatment is to pare down to the bottom of the puncture, to allow the escape of the matter formed, which is generally of a dark color; then place the foot in a poultice. Many cases if so treated are well in a few days. The wound may be dressed once a day with the tincture of myrrh or chloride of zinc, two grains to an ounce of water. If it is caused by what are termed pricks or pressure, not actually penetrating the sensitive part, but bulging the inner layers of the horn and pressing upon the sensitive interior lining, remove the shoe and poultice the foot for a few days, which will in any case get better in a short time, when the shoe can be put on and the horse can go to work.

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BRUISE OF THE SOLE.

Bruise on the thin sole is sometimes caused by the horse stepping on a round stone or spike or knot of wood, or anything which will cause matter to form. To ascertain this press on the sole or tap it with a hammer, when the horse will flinch, so that it is evident the lameness is there.

TREATMENT.

Remove the shoe and place the foot in a warm bran poultice for three days. If it is not then better, and the bruise seems to be under the crust

or horn, it should be cut away and the matter allowed to escape, and in a few days the horse will be fit to work. If the wound does not seem to heal, apply chloride of zinc, 3 grains to the ounce of water, for a few days ; that will heal it all up.

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CORNS.

Corns are the result of bruises caused by bad shoeing or by getting a small stone under the shoe, or by running in the pasture very long without any shoes.

SYMPTOMS.

The horse will be lame ; at sometimes lamer than at others, especially when driven on hard roads or pavements ; when he steps he will rest his foot forward, and if it is in both fore feet, he will rest first one and then the other ; and when first started he will seem to be very stiff, but will get better after driving a few rods. Corns are red spots in the triangular space included between the bars and the wall at the inside of the heel, occurring in the fore feet, and almost invariably in the inside heel, but sometimes on both sides of the heel.

TREATMENT.

Remove the shoes and poultice with warm bran with a handful of mustard in it ; if the corn has festered, cut it away and make a vent for the matter ; in a few days apply butter of antimony well

over the whole extent of the corn ; this will stop it from growing again, and will bring on a new horn over the spot where the corn was. If the corn is not festered, cut it away and poultice for a few days, then apply daily for a week butter of antimony ; this will stop it from growing again, and there will never be a corn on that place unless it is brought on by the same means that caused the first one. In applying the shoe it should be dished out so that it will not press on the spot where the corn is, and the last nail on the inside should be left out. The feet should be smeared over three times a week with the following :

Linseed Oil	6 ounces.
Oil of Tar	3 "
Kerosene Oil	3 "
Spirits of Turpentine	2 "

Shake well together before using.

It should be applied on the bottom of the feet and all over the hoof up to the heel and coronet.

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THRUSH.

Thrush is a discharge of fœtid matter from the cleft of the frog, arising from a diseased condition of the secretory surface of the cleft of the frog, which is the part commonly first affected, but when neglected the disease spreads over the whole organ, detaching the horn from the bulbs of the heel to the toe of the frog. The more common causes of

this are filth from the urine and faeces, and turning out to grass in wet pastures.

TREATMENT.

This is easily cured. Keep the diseased parts clean, and if the disease is very deep cut away the cleft or frog so as to get to the bottom of the trouble, then put the foot in a poultice for two or three days, and apply butter of antimony so as to cover over the whole of the diseased parts for three days; then apply tincture of iodine 1 ounce, glycerine 2 ounces, with a feather, once a day till better; this will cure the worst case if taken in time.

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CANKER.

Canker differs from thrush, in that it not only affects the frog, but also the sensitive part of the foot and rapidly extends to the sole and even the sensitive laminæ, but it is not a rare thing to see it commencing in other parts of the foot.

SYMPTOMS.

The first symptom of canker is strongly marked, and consists of abundant fœtid, colorless, offensively smelling masses of matter which involve the frog, the bars and the sole, and makes the foot one mass of putrefaction.

TREATMENT.

Place the foot in a warm poultice and dress the fungus growths with butter of antimony; merely

smear the top of them with it, and then cut away the old horn or hoof so as to make vent for the discharge of the matter; then dress daily with chloride of zinc, 4 grains to an ounce of water, and also inject it into the fungus twice a day. After a week's treatment the horse should be turned out to grass for two months, when the cure will be complete.

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RING BONES.

Ringbones are of two kinds, true and false. The false ringbone is from accident, caused by having the pastern accidentally cut; when very large it may cause lameness. A true ringbone is produced by violent inflammation of the ligaments of the joints, and is recognized by enlargements or bony tumors on each side of the foot, just above the coronet, and sometimes close down to the coronet, which cause considerable lameness, which disappears as the horse grows older.

TREATMENT.

Cut the hair close to the enlargement, and apply the following:

Oirganum Oil	2 ounces.
Oil of Spike	2 "
Oil of Cedar	1 "
Alcohol	4 "
Camphor Gum	2 "
Spirits of Turpentine	2 "
Chloroform	3 "

Shake well before using.

Apply once a day, and rub well in with the

hand, and if the lameness does not disappear in two months, apply the following once a day, for three days, then leave off for three days, and if no better, apply as before, and rub well in with the hand. A lump the size of a hickory nut will be sufficient.

Red Iodide Mercury .....1 ounce.
Lard.....8 "
Mix well together.

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CARE OF THE FEET.

After your horse has come in wash all his legs from the knee down, with lukewarm water; while doing so, have a hook and clean out the feet and wash them out clean, and wipe them with a towel or stroke them with the hands; you need not rub them till they get dry, as it does not matter if they are a little moist. Apply the following with a brush, about three times a week:

Linseed Oil .....6 ounces.
Soft Soap.....6 "
Oil of Tar.....3 "
Shake well before using.

The above will keep the hoof moist and cool; in applying it the foot should be lifted up and some of it applied to the sole and heels, then let the foot down and apply it to the front of the hoof and sides, up to the hair or to the top of the hoof; it will keep the hoof nice and smooth. An application of this liquid to the bottom of the foot is better than stopping the foot with clay or cow manure, or any other stopping you can get.

CHAPTER XV.

Twenty Different Fractures.

FRACTURE OF THE SKULL.

FRACTURE of the skull is caused by the horse rearing up, falling over on his back and striking his head against a stone or on the hard road, or it may be caused by being kicked on the head by another horse, by being struck with a fork handle, a club, or by bumping the head against a beam, or in twenty other different ways.

SYMPTOMS.

The horse will be stupid, and will stagger and fall, and when down will move his legs as if traveling; his eyes are nearly closed, his breathing laborious, and sometimes he will carry his head low, almost to the ground, while his lower lip hangs down as in palsy. Treatment is of no

avail, and the best plan will be to put him out of his trouble at once.

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FRACTURE OF THE NASAL BONES.

Fracture of the nasal bones is caused by a stroke with a fork handle or other weapon, or by throwing the head up and striking it against a beam, or by being kicked by another horse.

SYMPTOMS.

The symptoms of fracture of the membrane of the nose are a considerable follow of blood, and the falling in of the fractured pieces of bone into the air passage, whereby the space for breathing is diminished, and difficulty of respiration is the result.

TREATMENT.

Apply cold water to the fracture until hemorrhage is stopped ; then pass an iron rod up the nostril and press the bulged part out ; then apply over the fractured part a plaster of

Beeswax	3 ounces.
Tar	3 "
Burgundy Pitch	6 "
Flour	2 "

Melt in an old frying pan. When all melted and nearly cool, put in two scruples of cantharides and stir well together ; when it is middling warm apply a good coating of it over the fracture and then lay on some tow or flax, and pat it well

with the hand; then apply another coat over the tow, and then another coat of plaster, and then a light coat of tow, and smooth it with your hand; moisten with water, and in three or four weeks the fracture will be knitted together. Do not take the plaster off, it will come away of itself in a month or five weeks.

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FRACTURE OF THE UPPER JAW.

The fracture of the upper jaw is caused by a kick or by falling. It is so readily seen it needs no description. So that it is only necessary for me to give the

TREATMENT.

Apply the following plaster: Beeswax 3 ounces, tar 3 ounces, burgundy pitch 6 ounces, flour 2 ounces; melt together, and when nearly cold put in 2 scruples of cantharides and melt well together; heat till it is quite warm, but not hot, and spread with a spoon over the fracture, enough to form a coat; then spread over it enough tow to form a coat, and apply more of the plaster, then another coat of tow, and pat it with a moist hand until you get it in the shape you want the jaw, and in three weeks I have had the jaw nearly knitted sound.

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FRACTURE OF THE LOWER JAW.

This jaw is more subject to fracture than the upper jaw. It is caused by a kick, or by falling, or by the blow of a stone, or by many other causes.

TREATMENT.

Sometimes the horse in falling fractures the jaw or splits it in front; the treatment will be to have the jaw wired together by means of brass wire wound around the outside nipper, and to make it stay file in the side of the outside teeth with a three-cornered file; then bind the wire three or four times around the teeth. Before you bind see that there is no hay seed or chaff, or slivers of bone between the fractured bones. After they are bound together there will be nothing more wanted but to feed the horse on soft food for three weeks; by that time reunion will be established; the wire, however, should not be removed for a month or more, when it will be safe to remove it. The jaw is sometimes fractured on one side and sometimes on both sides; when it is fractured on both sides it is more difficult to cure; it can be cured, however, by cutting down to the bone and drilling a hole through each side of the fractured bone on one side and the same on the other side, and passing silver plated wire through the holes, drawing the broken parts together and fastening them with wire, cutting the ends so that they will not chafe the tongue or sides of the lips. Then by putting

a plaster as recommended for fracture of the upper jaw, applying it over the fractured place and padding it with tow, it will after being on three hours, get as hard as a stone, and will hold the jaw in its place without anything else. If the fracture is on one side, the application of this plaster is all that will be required for its cure. The horse should be fed on gruel and soft food for three weeks, and in four or five weeks the cure will be complete.

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FRACTURE OF PART OF LOWER JAW.

A fracture of the two front nippers on the lower jaw, with part of the jaw, is sometimes caused by a kick or by the horse getting his lower teeth under the pole or a chain and throwing his head up suddenly.

TREATMENT.

Wash the part out with cold water and clean out fragments of bone or hay seed that may have got in ; then file the side of the outside teeth with a three-cornered file; take some brass wire and wind it around those teeth and bring the broken ones to their places ; then draw the wire tight, and if the teeth project outward too much fasten the wire around the tush and that will draw them to their proper places ; fasten the ends of the wire so that they will not chafe the tongue or sides of the lips, and give soft feed, and in four weeks the cure will be complete.

FRACTURE OF THE SPINE.

Fracture of the spine is caused by falling, as in rearing up and falling over backwards; jumping over fences; falling down an embankment; falling across a stone, log or fence rail, and sometimes by getting cast in the stall.

SYMPTOMS.

In broken back the horse cannot rise up, but can move his hind legs and tail a little; in broken or dislocated back bone there will be swelling over the fractured part, and it will be very hot there; the horse will keep continually turning his head around and looking towards his back and showing symptoms of pain. There is no cure for this kind of fracture, and the best plan is to put him out of his misery as soon as the injury is discovered.

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FRACTURE OF THE RIBS.

Fracture of the ribs is caused by a kick, by falling down an embankment, running against fences, etc.

SYMPTOMS.

Broken ribs sometimes press against the lungs and cause laborious breathing; by putting the hand down the side you will discover a hollow in the side and one rib will be missing. The ribs are generally fractured about the middle. After it is discovered there can be but little did in the way of

cure. If the rib is really broken and pressing against the lungs, the best that can be done is to put him out of his misery at once ; but if the ribs are broken and not pressing against the lung, there is a chance of cure.

TREATMENT.

Put a bandage around the barrel made of something strong, with buckles on it, drawing it middling tight and keeping it so for two weeks ; by that time the cure will be complete. Feed the horse all the hay that he will eat, but do not give him much oats ; he will eat a good deal of hay which will fill him out, and by so doing it will press the broken ribs to their natural position.

———:o:———

DISLOCATION OF THE TAIL.

Dislocation of the tail is caused by entanglement, or by striking it with a fork handle, or lifting on the tail in raising a horse.

SYMPTOMS.

The tail will be crooked, and the lower part very loose and limber.

TREATMENT.

Tie the horse in the stall and let one man take hold of the tail while another finds where the dislocation is ; then let the one who has the tail pull gently, while the other presses the dislocated bone into its place, and it will be all right. This must be done soon after it is dislocated, or it cannot be got back to its proper place again.

FRACTURE OF THE SHOULDER.

Fracture of the shoulder is caused by a slip or a kick from another horse, or from running away and striking against a lamp post or tree ; falling down an embankment also sometimes causes fracture of the shoulder.

SYMPTOMS.

The legs hangs pendulous ; he drags his toe along the ground, moves slowly and with difficulty by hopping on three legs ; if the leg is handled a crackling sound will be heard.

TREATMENT.

If the fractured shoulder is that of a colt, it may be tried to complete a cure in the following manner : Apply the plaster as for fracture of the upper jaw, only have it so that it covers the whole of the fractured part ; do not sling the colt but let him run in a box stall, he will take care of the broken leg with as much care as you would of your own. If the colt is not more than six months old, a cure can be made in six weeks, but if the fracture is on an older horse he had better be destroyed.

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FRACTURE OF THE ARM.

Fracture of the arm is caused by a kick, by a slip on ice, or from a blow.

SYMPTOMS.

The limb hanging loosely, and if taken and moved by the hand the broken bones can be heard

grating together ; there can never be a cure established that will amount to anything, and the better plan would be to kill him at once.

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FRACTURE OF THE ELBOW.

Fracture of the elbow is caused by a sudden slip or by a kick. It is known by the altered action of the limb and the crackling noise of the broken bones. Treatment is of no avail, and the animal should be destroyed to end its pain.

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FRACTURE OF THE PATELLA.

Fracture of the patella is caused by a blow or kick, and if it is once fractured it can never be cured, for the broken bones can never be brought together again. It will therefore be money in the owner's pocket to destroy the animal at once.

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FRACTURE OF THE HAUNCH.

Fracture of the haunch is caused by slipping or by falling on a stone or stump.

SYMPTOMS.

The horse in walking will rest little weight on that leg, but will drag it along the ground ; he throws the injured leg out, and one hip is lower than the other. By placing your hand on the hip and letting the horse move, still keeping it there, you will feel the fractured bones grate together.

TREATMENT.

Apply an adhesive plaster of beeswax 3 ounces, Burgundy pitch 6 ounces, flour 2 ounces, cantharides 2 scruples; melt altogether and spread on a good coating with a spoon and work well into the hair, then apply some tow and work it into the plaster, continue until you have put on three coats, the last of which should be of tow; then with a moist hand pat the tow down and smooth it. Turn the horse into a box stall and in six weeks he will be cured so that you cannot tell which leg was fractured. The plaster should stay on till it comes off of itself.

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FRACTURE OF THE HOCK.

Fracture of the hock is caused by the horse getting his leg through a bridge, or jumping over fences and not clearing his hind legs.

SYMPTOMS.

The leg from the hock down is quite pendulous, and on moving it the rasping of the fractured bones against each other can be plainly heard; the leg swells to an enormous size. The treatment of this kind of fracture is very difficult. After the bone becomes united it is liable to leave the joint stiff. The better way would be to kill the animal at once.

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FRACTURE OF THE COMMON OR SHANK BONE.

Fracture of the common or shank bone is caused by a kick, by jumping over fences, by getting the

leg in a hole or through a bridge, etc. The symptoms of fracture of this bone are too well known to need description, so I will only give the means of cure.

TREATMENT.

Apply the adhesive plaster, (see fracture of haunch) have the leg kept as straight as possible ; if any of the bones are not close together great care should be taken to bring the divided edges together and retain them there until the plaster and bandage is put on ; have the plaster, bandages and splints ready. The splints should be of hickory, ten inches in length, two inches wide and two-eighths of an inch thick, and should be soaked in hot water ; have the plaster warm, and apply some of it over the fracture, enough to give it a thick coating ; then put on some tow and work it well into the plaster, and apply more plaster and tow —several layers ; then put on the splints, one on each side of the leg, one in front of the leg and a narrow one behind ; now bandage snug, but not too tightly. Do not put the horse in slings, but let him loose in a box stall ; the plaster will get hard, and will hold the broken joint as fast as if it was in a mould, and in six weeks or two months it will be so that he can run out to pasture, and the fractured joint will be knitted together in some cases as smooth as if there never was a fracture of that bone.

FRACTURE OF THE UPPER PASTERN.

Fracture of the upper pastern is caused by falling, getting the legs in a hole, as in a bridge sluice, and kicking, or by stumbling.

SYMPTOMS.

The fetlock will be swollen, and moving the foot will cause a crackling noise. The horse will not rest any weight on the limb, but will carry it in the air.

TREATMENT.

Put the horse in a box stall, apply the adhesive plaster used in fracture of the haunch; then bandage middling tight, and in a month or six weeks he will be entirely over it; and a month's run at grass will give him time to gain strength and be fit for work.

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FRACTURE OF THE LOWER PASTERN.

Fracture of the lower pastern is caused by the animal slipping or stepping on a round stone and slipping forward, causing fracture of that bone, which is sometimes splintered into several pieces.

SYMPTOMS.

The horse when driving will suddenly stop and hold up that foot, and the pastern will soon begin to swell; to make sure that it is fracture of the lower pastern, hold up the leg and move the foot, and then you will hear the grating noise of the broken bones.

TREATMENT.

Apply the plaster used in fracture of the haunch by heating it pretty warm and applying it around the pastern close down to the coronet or top of the hoof; then apply the tow and work it well in the plaster, then another coat of plaster, then a coat of tow, till three coats of each have been put on; the last coat should be tow, then with a moist hand work it close to the skin, and fix the foot in the position that it should be. Do not sling the horse, but let him run in a box stall, and in six weeks or two months he will be entirely recovered, when he may be turned out to grass.

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FRACTURE OF THE COFFIN BONE.

Fracture of the coffin-bone is caused by a slip or by stepping on a round stone, and it rolling from under the foot.

SYMPTOMS.

The horse will stop almost instantly and hold the foot off the ground and go on three legs, the foot will be very hot and tender and the symptoms of pain very great.

TREATMENT.

First put the horse in a box stall. All that this kind of fracture requires is to keep down inflammation, and this can be done by wrapping a woolen cloth around the fetlock joint and wetting four or five times a day with cold water, and nature will do the rest. I have seen them recover in

three weeks so that they could walk quite well on the foot that was fractured.

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FRACTURE OF THE NAVICULAR BONE.

This is caused by slipping on ice, by trotting fast and stepping the toe on a round stone, or by having a nail in the foot penetrating the navicular bone. Treatment is out of the question; if the fractured parts should unite together, there would be irreparable lameness, and the animal had better be destroyed at once.

CHAPTER XVI.

Diseases of the Skin.

HIDE-BOUND.

THE causes of hide-bound are exposure to wet and cold, an insufficient quantity of food ; or sometimes the result of some other diseases, particularly of those of the digestive organs.

SYMPTOMS.

The symptoms of hide-bound are an unthrifty coat, the skin quite tight to his ribs ; it feels dried and rough, and the hair will stare instead of being glossy, soft and oily ; in health the skin should be soft and thin and loose on the ribs.

TREATMENT.

Give the following powder, one tablespoonful, night and morning in his feed of hot bran mashes,

for a week or ten days ; he should also have good sound oats, not too many, but all he will eat clean up :

Nitrate of Potash	6 ounces.
Ginger	3 "
Gentian	2 "
Black Antimony	1 "
Green Copperas	2 "
Tartar Emetic	2 "

By the time this medicine is used up the horse will be entirely recovered ; his skin will be again soft and glossy.

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PSORA.

Psora is of two kinds, the dry and the moist ; its causes are too high feeding and not enough exercise.

SYMPTOMS.

The symptoms of dry psora are small pimples arising on any part of the body, which subsequently scale off, so that the place they occupied seems covered with a grayish powder. Moist psora gives rise to small pustules which are elevated above the skin, and pour out a gummy fluid, which soon dries by the air, and is converted into a crust ; sometimes forming small ulcers which have a tendency to deepen and eat their way into the skin and destroy the roots of the hair, causing it to fall out. In either form it causes considerable itching.

TREATMENT.

Give night and morning for a week, in a hot bran mash, one tablespoonful of the following powder:

Sulphur	3 ounces.
Sulphate of Magnesia	4 "
Nitrate of Potash	4 "
Ginger	3 "
Green Copperas	3 "

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MANGE.

The cause of mange is neglect of cleanliness and poverty of condition.

SYMPTOMS.

The symptoms are a dry scurf, and the horse will rub and scratch against any object in his reach; this loose scurf will spread over the shoulder and neck, and if allowed to run it will eventually spread over the whole body and take the hair off, leaving the horse with only a bunch on the end of his tail, and on the legs up to his knees; the second stage will be little lumps or blisters on the skin where the hair came off, which will change to scabs, which likewise soon peel off and leave a wider scab; this process goes on and the skin soon becomes more or less folded or puckered, till the horse becomes one mass of sores, and death ends his suffering.

TREATMENT.

Apply the following with a sponge once a day

till better, to the places where the horse rubs himself; use enough to moisten the skin:

Oil of Tar.....4 ounces.
Whale Oil.....6 "
Kerosene Oil.....4 "
Shake well before using.

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RINGWORM.

This is a disease occasioned by a worm or grub under the skin, causing the hair to fall off in a circle, accompanied by slight swelling and itchiness of the skin; it does not affect one particular kind or condition of horse, but all seem to be affected alike.

TREATMENT.

Rub well into the skin or place where the hair is off the following with a sponge once a day, and in three days it will be cured:

Oil of Tar.....2 ounces.
Whale Oil.....3 "
Kerosene Oil.....2 "
Put in a bottle and shake well before using.

———:o:———

SURFEIT.

The cause of surfeit is sweating the horse and giving cold water, or driving him in a storm till he is heated.

SYMPTOMS.

The symptoms are small round blotches or spots resembling blisters that arise on the human being;

they come on the shoulder and sides, and along the loins.

TREATMENT.

Take one quart of strong vinegar and twenty grains of bi-chloride of mercury, and boil ten minutes; apply it warm but not hot, twice a day, and in three days the blotches or spots will have all disappeared, and the cure will be complete.

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LARVA, OR GRUBS IN THE SKIN.

These grubs are caused by the deposit of an egg by the gadfly on the horse's back. The warmth of the animal hatches the egg into a sort of maggot which burrows into the skin and remains until the next spring, causing a small lump to raise which is very annoying to the horse. The only way to get rid of these grubs is to cut a small hole in the skin and squeeze them out, then apply chloride of zinc 2 grains to the ounce of water, with a sponge, for two or three days.

———:o:———

WARTS.

Warts are of two kinds, one being on the outside of the skin and any place on the body, sometimes on the ears and eyes; usually having a small base and a rough surface, and generally growing larger if not cured; if touched they usually bleed.

TREATMENT.

If the wart is in the ear take a waxed cord and tie it tightly around the lower part of it, and in two or three days it will drop off; if on any other part of the body they may be touched with butter of antimony around the base every other day, and in a few days they will drop off and leave the skin smooth. The other kind is a wart under the skin, the top smooth, soft and tender when pressed upon; this kind should be opened with a knife and the contents will be found black, mixed with matter; it should be removed and the wound dressed with a solution of white vitriol, 3 grains to the ounce of water; after dressing a few times it will be all right.

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LICE.

Horses often get lice on them by having poultry to roost in the same barn where they are kept; sometimes they are caused by debility and uncleanliness.

SYMPTOMS.

The animal is not easy for a single moment, he rubs his skin against every thing he can; he stamps the ground continually; strikes his belly, bites every part of his body he can reach with his mouth; at night his torments increase so much that should the animal be abandoned to himself, he rubs and bites himself to that degree that he tears his skin and carries portions away in his mouth,

denuding himself extensively of his skin; nor does he stop until the smarting pains cease.

TREATMENT.

Apply the following from the tip of the nose to the end of the tail, then over the shoulder down to the hoof on both sides; then across the small of the back and around the belly. Put on enough of the fluid to moisten the skin when applied. One application is enough to cure the worst case:

Scotch Snuff	2 ounces.
Kerosene Oil	4 "
Whale Oil	6 "

Shake well together in a bottle before using.

CHAPTER XVII.

Surgical Operations.

I WILL not give the different kinds of surgical operations necessary in every branch of a veterinary practice, but a few instructions in the manner of conducting the principal ones: First I will give the proper manner of throwing a horse, an operation necessary to almost every other one: Place a bridle on your horse, then put a surcingle on and a strap about eight feet long, with a buckle on one end of it. Fasten that end on the foot, and have a line run through the bit ring; now stand on the right side of your horse, take this line in your left hand, then take the line that is fastened to the foot of the right fore leg, run it through the surcingle and over the back; take hold of this line and draw the horse's head around; next draw the front foot up and hold it there and

the horse will first kneel down and then lie down. There should be one man at the head to keep him from knocking it. If one leg is to be operated on it can be let loose from the others, and a cord tied to it and held by an assistant. In performing any surgical operation, the operator should have a correct knowledge of the parts upon which he is going to operate. Make up your mind before commencing just where you are going to cut, and how much you are to cut, and always be careful to accomplish as much at one cut as possible; have ready a sponge, a pail of water, needles, twine, cord, knife, hook to take up the blood vessels and to stop bleeding, and all the necessary appliances for the operation, so that you won't have to run first for one thing and then for another.

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BLEEDING.

This operation is performed with a fleam or lancet. The first is the common instrument and the safest except in skillful hands; the lancet however has a more surgical appearance, and will be adopted by the veterinary surgeon. A piece of hard wood is used to strike the fleam into the vein. For general bleeding the jugular vein is selected, the horse is held by the halter by an attendant, his head turned well away; smooth his hair along the course of the vein with the moistened finger,

then with the third and little finger of the left hand which holds the fleam, pressure is made on the the vein sufficient to bring it fairly into view, the fleam is now laid on the vein, and a sharp tap with the stick will cut through it and the blood will the flow. When enough has been taken the lips of wound may be brought together and pinned. Six or seven hairs from the tail may be wound around the pin—the next day the pin can be drawn out. For bleeding in local inflammation, blood may be taken from any of the superficial veins ; in supposed affection of the shoulder or of the fore legs or foot, the saphena vein may be opened, one inch above the wart. This can be done with a small sharp pointed knife ; the quantity to be taken is from two to three quarts. When the operation is completed the vein should be pinned together in the manner described above, and a bandage put around the leg, which will stop the bleeding. In foot cases it may be taken from the toe, not by cutting out a piece of the sole at the toe of the frog which sometimes causes a wound difficult to heal, and followed by festering, and even by canker, but by cutting down with a fine drawing knife, called a searcher, at the union between the crust and the sole at the very toe until the blood flows, and if necessary encouraging its discharge by dipping the foot in warm water. The network of both arteries and veins will be here divided, and blood is generally obtained in any quantity that may be

needed; the bleeding may be stopped with the greatest ease by placing a bit of tow in the little groove that has been cut, and tacking the shoe over it.

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PHYSICKING.

The mucous coat of the intestines of the horse appears to be more irritable than in man; it also occupies relatively a larger extent of surface. The length of the intestines is ninety feet in an average sized horse, the small intestines seventy feet, the large ones twenty; the average time it takes to physic a horse is from twelve to twenty-four hours. The following is certainly the best purgative: Barbadoes aloes 6 drachms, ginger 1 drachm, linseed oil one pint; for young colts and foals: for foals three days one teacupful of linseed oil with one teaspoonful of aloes and ginger, add a little warm water; at one year old give two teaspoonfuls of aloes in one gill of linseed oil, and one teaspoonful of ginger, add a little warm water; for two year olds give half the dose that you would for a full grown horse. If the purging is copious no exercise should be given; but if otherwise, it will much assist the operations to give a greater or lesser amount of exercise as may be required.

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ROWELING.

This is done by cutting through the skin in the breast and working a pocket as big as an egg ; then fill it with leather or tow, smeared with simple blistering salve ; after it has been in two weeks it may be taken out, and the wound will heal up of itself ; its uses are to cleanse the blood or to remove lameness in the shoulder.

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PUTTING IN A SETON.

This is done by putting a piece of tape through the skin with a seton needle, and drawing the ends and tying them together ; then smear the tape with simple blister salve. The seton is used for the purpose of drawing inflammation from a certain place, as for instance, from the eye, where its use is of great benefit ; or for swellings or lameness in the foot, where it works with the best results.

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CASTRATION.

The period at which this operation may be best performed depends much on the breed and form of the colt, and the purpose for which he is destined. For the common horse, the age of four or five months will be the most proper time, or at least before he is weaned ; few are lost when cut at that age. Care, however, should be taken that the

weather is not too hot nor flies too numerous. If the horse is designed either for the carriage or for heavy draught, the farmer should not think of castrating him until he is at least twelve months old, and even then the colt should be carefully examined; if he is thin and spare about the neck and shoulders, and low in the withers, he will materially improve by remaining uncut another six months; but if his fore quarters are fairly developed at the age of twelve months, the operation should not be delayed lest he becomes heavy and gross before, and perhaps has begun too decidedly to have a will of his own. No specific age then can be fixed, but the castration should be performed rather late in the spring or early in the autumn, when the weather is dry.

THE OPERATION.

The best plan—by means of caustic—requires two pieces of wood, each about six inches long and an inch square, with a notch or neck at each end to hold the twine by which they are tied together, and a groove in the two opposite surfaces to hold the caustic. This is composed of one part of corrosive sublimate and four of flour, made into a paste with water, and introduced while moist into the grooves, which it should completely fill; the horse is then secured, and the operator kneeling on the left side, grasps the testicle so as to make the skin of the scrotum covering it quite tense; a longitudinal incision about three inches

long is then made down to the testicle, which if care has been taken that there is no rupture, may be rapidly done, a wound of its surface not being of the slightest consequence, and giving far less pain than the slow haggling dissection of its coverings which is sometimes practiced to avoid it. The testicle can now be cleared of its coverings and gently laid hold of with the hand, the operator raising it from its bed; the pieces of wood can then be adjusted on each one of the cords and firmly held together with pincers by an assistant, while the operator binds their ends together with waxed string; the testicle may now be removed with the knife. If the string has been sufficiently tight, in six days the cords at each end of the sticks may be cut; they will spring open and in a few days will fall off themselves, and all will be right.

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POLL EVIL AND FISTULA.

If the tumor has matter in it, let it out by making a vent at the lower side so that it can freely discharge; if the tumor has pipes in it, lay them open with the knife, do not be afraid of cutting open every pipe you can find; then dress the wound as you would any other wound, and inject in it twice a day of the following lotion, and in a week it will be healed: Chloride of zinc 4 grains to 1 ounce of water.

Fistula requires the same treatment as poll evil.

TUMORS ON THE SHOULDER.

Tumor on the shoulder can be cut out as follows: Put a twitch on the horse and make a deep incision through the skin, work the flesh off the tumor with the knife, until you come to the thread or cord that holds it on; twist the tumor around a number of times, and then cut the cord and take the tumor away; then inject in the wound three times a day of the following: Chloride of zinc 4 drachms to half a pint of water.

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DOCKING.

Docking is cutting off the tail, and it is done whenever it is wished to make a bob tail, or when the horse has got a habit of getting the tail under the lines. It is done by first parting the hair nice and even at the place where you wish to cut, and tying that which is to be left on the tail back out of the way, then lay a block on the hips and stand by the side of the horse, drawing the tail up over the back until it rests on the block in the right position; let an assistant stand on the other side of the horse and hold it there; then place some sharp instrument on it, and with a blow from a mallet or hammer cut it off; being sure to separate it with one cut, then let it bleed a few minutes, and bind on the end a puff ball and pull the hair over it, and tie it in such a manner as to keep the ball

stop tight up against the end of the tail, which will the bleeding. Let it stay on twenty-four hours, then take it off and wash the tail clean, and it will heal without difficulty. Do not burn the end of the tail or cord it tight, for it causes the hair to drop out.

———:o:———

PRICKING.

Pricking is merely to cause the horse to carry his tail higher than he otherwise would. The mode of doing it is to first fasten the horse with a rope around the neck and between the fore legs and around the fetlocks of the hind legs, so that if he kicks he cannot hurt you ; and have the assistant stand by the head holding the twitch ; take hold of the tail and draw it over on the back, then three inches from the roots of the tail make with a small bladed knife the incision. You will find two cords on each side of the tail. Put your knife flatways with the tail and work it in that way till you get it under the cord, then turn the knife over and cut the cord off, but do not cut any more ; two inches from this incision make another ; do the same on the other side, and then tie a knot on the tail and put a cord through the knot and draw the tail over the back and tie it to the surcingle and keep it there for a week ; then it may be taken off and the tail will be carried with a nice raise ; if it

is wanted carried up pretty well, it may be tied up longer, according to the fancy of the owner.

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TO STRAIGHTEN CROOKED TAILS.

To perform this operation fasten the horse as for pricking, then stand on the side to which the tail crooks and turn it over the back, and where the crook is lay your knife blade flat and work it under the cord ; be careful and cut between joints. After you get the knife blade under the cord turn it over and cut the cord off ; if it is not a very bad crook one cut will be enough, but if it is very bad make another cut one and a half inches below the first ; then tie a knot on the end of the tail and tie it around to the opposite side and let it stay there for three days ; then untie it and let it be down for one day ; then tie up again for a few days more, and the tail will be carried straight.

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FIRING.

Firing is performed by heating an iron to a white heat and burning the skin and sometimes through the skin to the depth of one inch, or more or less, as the case requires. The kind of iron to be used in burning bony tumors, hard swellings, ring-bones, spavins or splints, is made in this way : Have four pieces of round iron two-

eighths of an inch thick, and eight inches long, welded together, leaving two inches at one end unwelded; have these unwelded ends sharpened with blunt points half an inch apart and then put a handle on the other end. In burning for spavin have the horse thrown with the diseased leg down, so that the spavin will be up and you can get to it readily with the firing iron; heat the iron till it is red hot and by the time you get to the horse it will be just right; burn through the skin and to the spavin just enough to prick it a little, applying it all over the enlargement until it resembles honey comb. Ringbones, side bones, splints and bony tumors should be treated in the same manner. All the part will want will be to oil the place where it was burnt, which will keep the air from it. Ringbones and spavins sometimes require to be burnt twice, but they yield to this treatment when all other remedies fail, and a horse does not suffer as much as in blistering, and it only lasts one or two hours, and is then all over with.

CHAPTER XVIII.

How to Shoe Your Horse.

IF YOUR horse has a broad and well shaped foot, wide at the heels, with a large and well spread frog, and the heels well down to the ground—the shape of a colt's foot of the age of six months—your object will be to keep it in that shape. On looking at the foot of a colt six months old you will find it well spread, the heels full and wide, and close to the ground, and the frog also full and wide; this is a natural hoof, by natural growth; your object should be to shoe your horse so as to have his foot as nearly like a colt's foot as possible; when your horse is taken to the shop have the shoes taken off carefully; then pare the heels down to the shape of a colt's foot, and do not cut any off the frog nor much off

the toe ; cut most off the heel and very little off the toe ; do not cut or file any off the sides of the hoof, but have the shoe come out full. Do not have the heel of the shoe close, but wide and well away from the frog, and have the shoe lay even on the foot. Do not have the shoe hot when you apply it to the foot for it injures the toughness of the hoof, and causes it to be brittle and dry. Some smiths have a habit of putting clips on the toes of horses when shoeing, which injures the foot. The smith will tell you it does good, it keeps the shoe on. Now, how can it keep the shoe on? A horse does not push his feet like a sleigh along the ground, but when he is in motion puts his foot flat to the ground, and does not push his toe against the ground as is thought by some horsemen ; this clip presses against the toe with a continuous pressure, and causes a curl or winding ridge up the front of the hoof, and by-and-by you will find a crack from the toe to the top of the hoof; this is the consequence of a clip on the toe of the shoe. There should be four nails on the outside of the shoe and three on the inside. After the shoe is on the frog should be so that it will lie or press on the ground when the shoe does. This is the way to shoe a sound foot.

To shoe a contracted foot and make it expand, when all other means fail to do it, cut away the heels most, and do not cut much off the toe ; then cut out the bars and the clefts each side of the

frog so that they will nearly bleed, and you can almost spread them with your hand before you nail the shoe on; cut between the toe and the shoe two inches wide and enough so that you can put the blade of your jack-knife between the shoe and hoof. This will spread the worst contracted foot. Apply two ounces of the following liquid to the feet with a brush, close up to the hair and over the frog and sole and heels, twice a week :

Linseed Oil	6 ounces.
Kerosene Oil	3 "
Oil of Tar	3 "
Spirits of Turpentine	3 "

Apply this to all the feet, and it will keep them cool and soft. It is a splendid application for contracted feet and brittle hoofs.

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THE BEST KIND OF SHOES.

If the horse is shod for road purposes, have the shoe wide at the toe and narrow at the heel, and it ought to be so made and fitted as to bear upon all parts around the crust or wall of the hoof; the shoe should be beveled off so that it will not lie on any part but the edge of the wall or crust of the hoof. For summer use it is not required to have any toe or heel calks on. Do not let the shoes stay on too long; they should never be allowed to stay on over four weeks at the outside.

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TO SHOE A HORSE FOR TEAM WORK.

Pare the hoof as for road purposes, by cutting more off the heel than the toe, to have the foot as nearly as possible in the shape of a colt's foot. The best kind of shoe for a work horse, is one of proper thickness, that will not bend or bulge if he steps on a cobble stone or spike, etc.; it should be broader at the toe than at the heel, and broader at the heel than the shoe used for road purposes; the calks should not be more than a quarter of an inch high. Pare the foot so that the shoe will lie level all around, and in fitting it do not apply it hot, as it injures the crust and sole of the foot; have the heels well spread, not too much, but enough so that they will not press against the frog; have the shoe come out even with the sides of the hoof; what you pare off the sole will be enough without rasping the sides of the hoof, unless it is out of shape, and then it should be rasped only enough to bring it into shape. Do not leave the shoe on longer than four weeks; if left on longer the hoof will grow over it, and in time will cause lameness.

THE BAR SHOE.

The bar shoe is simply a common shoe with a bar across the heel by which the pressure is taken off some tender place, as for instance, where there

is a corn, a prick in the crust, sole or frog; or for the cure of quarter crack or sand crack, and here it is very useful. It should be allowed to stay on not over four weeks before it is removed, the foot pared and the shoe put on again. When applied to the foot it should be made so that the bar does not press too much on the frog, but merely touch it.

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PUTTING LEATHER UNDER THE SHOE.

Leather under the shoe is very useful for the purpose of lessening the jar or shock produced by the contact of the elastic iron with the ground, or for the cure of inflammation in the feet; when a horse is so lame with inflammation in his feet that he can hardly travel, putting leather under the shoe will relieve him so that he will go along as if nothing was the matter with him. This is a very good contrivance while inflammation or tenderness of the foot continues, but it is a bad practice if constantly adopted. If it is put on to lessen the jar, it may be put over the hoof and the shoe nailed on afterwards; and the leather cut out with a knife. If it is put under the shoe for the purpose of keeping dirt from a wound in the sole or frog, or for corns, spread it over the whole foot and put the shoe on, then see if the leather fits evenly over the foot, if it does then you may nail the shoe

on ; after you get the shoe on cut the leather close to the shoe on the outside, but do not cut it on the inside of the foot ; but if it is out too far from the heel it may be cut off there. This is a great benefit to horses where the sole is bruised or where it is thin or flat and tender. It cannot be too highly recommended for diseases of the feet.

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TIPS OR HALF SHOES.

Tips or half shoes, as they are sometimes called, are shoes that come half way around the foot, and are worn while the horse is out to grass, or running in a box stall, to prevent the chipping of the toe or the crust being broken by occasional hardness of the ground, or the pawing of the animal. They are sometimes put on while horses have contracted heels to save the toes while they run out to grass, and the contracted heel has a chance to expand. They greatly save the toes of the horse, and should be put on every horse that is turned out to grass. Fasten with four nails, two on a side, and leave them on from two to three months.

CHAPTER XIX.

Veterinary Medicines.

I GIVE here a complete list of all the Medicines used in the Treatment of Diseases of the Horse, with the particular disease each medicine is calculated to act upon, and the proper amount to be given for a dose.

These remedies are given under their common names, so that they will be recognized by horse owners ; and not by the names they are known by among Veterinary Surgeons.

Acetic Acid

Is used as a caustic for the removal of warts and similar growths.

Its mode of application is to apply the acid to the roots of the warts with an iron skewer once a day till they drop off.

Arsenious Acid

Is used as a tonic in chronic rheumatism, mange, farcy, heaves or broken wind.

The dose for a horse is five to ten grains twice a day, mixed with ginger and gentian, one drachm of each, to be put in the feed.

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Alum

Is used as an astringent in diarrhoea and obstinate diabetes, and is applied externally to open joints and wounds.

The dose for a horse is two to four drachms once a day, dissolved in water and given with opium.

For external application it is pulverised and mixed with flour and sprinkled over the wound.

——o——

Ammoniacum.

This is a stimulant and anti-spasmodic in coughs and nervous diseases.

The dose for a horse is two to four drachms ; to be given in the form of balls once a day.

——o——

Assafoetida

Is used as a stimulant and for the cure of coughs and colic.

The dose is two four drachms once a day, to be given in a drench with three ounces of syrup and one drachm of gentian.

Aloes.

Barbadoes aloes is used as a purgative.

The dose is three to eight drachms dissolved in warm water with four drachms of ginger and one ounce of laudanum, to be given every twenty-four hours till the horse is physicked.

—o—

Ammonia

Is used as a stimulant and resolvent. It is given in tympanites or hoven.

The dose is one-half to one ounce diluted with thirty parts of water or cold gruel ; to be given twice a day.

—o—

Aromatic Spirits of Ammonia

Is used as a stimulant and anti-spasmodic. It is given in hoven.

The dose is one-half to one ounce, to be given in cold gruel or in cold water twice a day.

—o—

Benzoin

Is used in the tincture of aloes and will be spoken of in that place.

—o—

Borax

Is used for the cure of sore mouth.

The dose for a horse is one ounce in six ounces of honey, to be applied to the parts affected three times a day.

Black Pepper

Is used for a stomachic and carminative in simple indigestion, and as an aromatic to destroy the unpleasant flavor of many medicines.

The dose is two drachms; given with other medicines.

—o—

Burgundy Pitch

Is used externally as a plaster for the support of sprains and fractures.

Its mode of application is to melt it with tar, beeswax and flour, three ounces of each, and apply when warm.

—o—

Bi Carbonate of Potash

Is used for a diuretic.

The dose for the horse is two to six drachms; it is given in cold water or in gruel twice a day.

—o—

Carbolic Acid

Is used externally as a disinfectant, astringent and styptic, applied to cancerous sores and ulcers and thrush; it modifies suppuration, and cures scratches and farcy ulcers.

Its application is as a lotion: Carbolic acid one ounce, water twenty ounces. The same can be used as a disinfectant.

—o—

Chlorine Gas.

This gas is used to disinfect the air of stables and other buildings, and for the cure of glanders and farcy; in its action on these two diseases, it first increases but ultimately diminishes the secretion.

As a disinfectant the apparatus is to be placed in the stable, the doors closed during the generation of the gas, and afterwards opened for some time previous to the entrance of any person.

When the gas is to be inhaled the patient should be in a stall, the gas in an earthen jar, and the horse's head should be held over the vessel containing the gas; if the patient shows symptoms of choking the vessel may be removed for a few moments, and be again applied; it will need to be used once a day, for three weeks. A complete cure will be the result.

—o—

Carbonate of Ammonia

Is used as a stimulant and resolvent, and is given in influenza, erysipelas and other typhoid affections, and in inflammation of the lungs, pleurisy, and similar complaints.

The dose for the horse is one to two drachms, twice a day, dissolved in water.

—o—

Chloride of Ammonium

Is used externally as a stimulant for bruises and sprains, and inflammatory swellings.

One ounce to one pint of vinegar is the proper proportion; apply three times a day.

—o—

Chamomile Flowers

Are a tonic and carminative in indigestion, and are also used during convalesence after inflammatory attacks.

The dose is two to six drachms, combined with one drachm of ginger, twice a day, in warm water or gruel.

—o—

Chlorinated Lime

Is used internally in tympanites to absorb the carbonic gas and decompose the sulphuretted hydrogen which are developed in these affections. Externally it is used as a disinfectant and stimulant to gangrenous wounds, fistulas, poll evil, ulcers, thrush, canker, grease, etc.

The dose should be for internal use three to five drachms, suspended in water, three or four times a day. For external application as a lotion, use one ounce to one quart of water, and the same for a disinfectant.

—o—

Camphor

Is used as a stimulant and sedative, and is occasionally given in tympanites and cough; also externally as an anodyne for chronic sprains and bruises.

The dose is one to two drachms disolved in alcohol and combined with opium or digitalis, and water twice a day. For external use, see liniments.

—o—

Cantharides.

This is used as a stimulant and tonic in cases of debility or in dropsy ; also in farcy and glanders. Externally, is used for a counter-irritant or stimulant, and is also employed as a blister.

The dose is five grains suspended in gruel, once a day. Externally, is used in the form of an ointment or liniment. See ointments and liniments.

—o—

Capsicum.

This is a stimulant and carminative, and is used in colic or constipation of the bowels.

The dose is six to thirty drops, to be given in gruel twice or thrice a day.

—o—

Charcoal

Is used to absorb the gases causing gastric distension ; also in diarrhoea and dysentery to correct the fetor of the evacuations.

The dose is one to two ounces, pulverized and mixed in cold gruel ; to be given once a day.

—o—

Caraway Seeds

Are used as a carminative and aromatic internally in indigestion and flatulency, and to mask

the disagreeable flavor of medicine; also to diminish the griping effects of purgatives.

The dose is one to two ounces, powdered and administered with other medicines, or given in half a pint of warm ale twice a day.

—o—

Cascarilla Bark

Is used as an aromatic tonic and slight astringent. Is sometimes given in diarrhoea and chronic typhus affections, and in debilitating diseases.

The dose is two to four drachms, given as a drench with opium, once a day.

—o—

Chloroform

Is used as an anaesthetic to deaden the great pain attending some operations.

The mode of application is on a sponge saturated with the chloroform and placed in a bag attached to the patient's head; the quantity to be used is six ounces. When the point of a knife is borne without a flinch the sponge may be withdrawn. For use as a liniment, see liniments.

—o—

Collodion

Is used for an adhesive covering to wounds, and in erysipelas, ulcers and burns.

It is brushed over the parts affected three or four times a day; it protects them from atmospheric and other causes of irritation.

Creosote

Is used as a caustic in the stopping of bleeding, and for glanders and farcy.

It is mixed with powdered alum and sprinkled over the wounds. In glanders and farcy it is diluted with water, one ounce to seventeen ounces of water ; to be injected up the nostrils or into farcy ulcers, twice a day.

—o—

Chalk

Is used for chronic diarrhoea and dysentery.

The dose is one ounce suspended in gruel, with one ounce of laudanum and one drachm of ginger, given once a day.

—o—

Croton Seeds

Are used for a cathartic in obstinate constipation, and where it is necessary to effect a speedy evacuation of the bowels.

The dose is twenty to thirty grains suspended in warm gruel, or with other physics; given every twenty-four hours till evacuation of the bowels takes place.

—o—

Chloride of Antimony

Is used for a caustic in the treatment of corns, thrush, canker and fistula.

It is applied to the affected parts with an iron skewer, once a day ; it occasions but little pain.

Castor Oil

Is used for a cathartic in constipation of the bowels.

The dose is six to eight ounces with a little warm water, and one ounce of laudanum, to prevent griping, to be given once every twenty-four hours till evacuation of the bowels takes place.

—o—

Croton Oil

Is used for obstinate constipation of the bowels.

The dose is fifteen to twenty drops mixed with linseed oil or any other purgative, once in twenty-four hours till purgation takes place.

—o—

Chloride of Sodium

Is used as a cathartic diuretic and tonic, alterative and resolvent.

Put in the manger for him to lick, or sprinkle over his oats or hay ; externally, is used as a lotion consisting of one pound of common salt to a gallon of cold water. This lotion should be applied immediately after the salt is dissolved.

—o—

Chloride of Zinc

Is used for the healing of wounds, canker, quittor, and all wounds and farcy sores in the skin.

Its mode of application is mixed with three grains to the ounce of water, applied with a feather

four or five times a day. The healing commences from the first application.

——o——

Distilled Water.

Distilled water is rain water boiled and filtered, and is used for dissolving many medicinal agents; also for making all aqueous solutions.

——o——

Digitalis

Is used for a se lative and diuretic in functional diseases of the heart and chronic rheumatism; also in pneumonia and chronic cough.

The dose is three grains, mixed with nitrate of potash, ginger, gentian and laudanum; to be given twice a day in the feed.

——o——

Ergot

Is a styptic in hemorrhages of the lungs, kidneys, and other organs, but is principally used as a parturient to excite the uterus, to contract and expel its contents during parturition.

The dose should be two to four drachms; to be given in porter twice a day.

——o——

Emetic Tartar

Stimulates when used internally; it is also an alterative, nauseant, sedative and emetic. It is given in the early stages of inflammation of the lungs and pneumonia.

The dose is one-half to one drachm, to be dissolved in water, and one-half drachm of ginger with it; to be given twice a day.

—o—

Epsom Salts

Is used as a cathartic and diuretic.

The dose is one-half to one pound, dissolved in warm water with one ounce of ginger and one ounce of laudanum, once a day.

—o—

Ether Sulphuric

Is a stimulant and narcotic, and is used for stoppage of water, inflammation of the bowels, and colic.

The dose is one to two ounces given with cold water, and one ounce of laudanum, given twice or three times a day.

—o—

Gamboge.

The dose is three to six drachms, combined with one ounce of ginger and one of laudanum in one-half pint of warm water, to be given once a day.

—o—

Galla

Is used as an astringent and styptic.

The dose is one to three drachms mixed with linseed meal, two ounces, syrup two ounces; formed into balls and given twice a day.

Gentian Root

Is a tonic and stomachic.

The dose is two to four drachms, to be given in half a pint of warm water, with carraway seeds and ginger ; to be given twice a day.

—o—

Glycerine

Is employed externally as an emollient in skin affections, accompanied by dryness, and in cracked heels, burns and scalds.

Glycerine six ounces, carbolic acid one ounce, mixed and applied with a feather to the diseased skin twice a day.

—o—

Ginger

Is used as a stimulant, stomachic, carminative and tonic ; is given in flatulent colic and debility of the stomach and intestines. It is also combind with cathartics to increase their activity and to prevent griping.

The dose is two to five drachms given with other doses, such as physic or tonics ; it may be given two or three times a day.

—o—

Hydrocyanic Acid

Is given as a sedative, anti-spasmodic and anodyne ; is used in chronic cough, palpitation of the heart and tetanus.

The dose is twenty to thirty drops, to be given

in cold water with one drachm of belladonna, three times a day.

—o—

Iodide of Copper with Iodine.

The properties of this remedy are tonic and alterative; also stimulant to the absorbents. Is employed in the treatment of glanders, farcy and nasal gleet; also as an external stimulant and astringent, applied to enlargement of the legs and glandular enlargements.

The dose is one to two drachms combined with ginger, gentian, and one-half pint of ale, once a day. For external use see Ointments.

—o—

Iodide of Iron

Is a tonic, alterative and astringent, and is given in diabetes and nasal gleet.

The dose is one to two drachms, in a solution of water or gruel, once a day.

—o—

Iron, Sulphate of

Is used as an astringent and tonic; given in debilitating diseases.

The dose is one to two drachms with ginger and gentian, two drachms of each; to be sprinkled over the feed or given with one-half pint of ale, twice a day.

—o—

Iodine

Is used as a tonic, alterative, deobstruent and resolvent; if it is given for a length of time it causes debility, and gives rise to disturbance of the constitution. Also as an external stimulant, counter-irritant and resolvent in bursal enlargment, swellings of the joints, and tumors of various kinds.

The dose should be ten to twenty grains in one pint of ale, once a day. For external use, see ointment of iodine and tincture of iodine.

—o—

Ipecacuanha

Is a sedative; a mild cathartic; also used in coughs.

The dose is fifteen to eighteen grains, to be given with gentian, ginger, nitrate of potash, one drachm of each, mixed with the feed once a day.

—o—

Iodide of Potassium

Is used in hemorrhage from the bladder, or for the absorbtion of tumors or glandular structures.

When injected in the bladder dilute one fluid drachm with three fluid ounces of water. For external application see ointment of iodide of potassum.

—o—

Iodide of Sulphur

Is used for coughs, broken wind, thick wind, and for roaring.

The dose is ten to fifteen grains, mixed with one drachm of gentian and one drachm of ginger; to be sprinkled over the oats twice a day.

—o—

Iodide of Mercury

Is used as a counter-irritant and resolvent in the treatment of curbs, splints, sprains and enlarged burses. For the mode of application see ointment of red iodide of mercury.

—o—

Juniper Oil

Is used as a diuretic and stomachic.

The dose is one to two drachms, to be given in water, with one ounce of laudanum and two ounces of spirits of nitre, once a day.

—o—

Linseed

Is used externally as a poultice for the drawing and softening of tumors, and is sometimes given to horses as a mucilage, and for coughs and debility.

The dose is four to six ounces, to be given in the feed. As a mucilage, put a half pint in a pail, pour over it four quarts of hot water, and give one pint at a dose, or sprinkle it over the feed twice a day.

—o—

Liniment of Ammonia.

Take oil of turpentine one ounce, aqua ammonia one ounce, and olive oil two ounces.

Use as a counter-irritant in sore throat, rheumatism, sprains, chronic tumors and bronchitis; applied twice a day.

—o—

Liniment of Lime.

To make, take lime water three ounces, olive oil two ounces, and spirits of turpentine one-half ounce.

It is applied to burns and scalds.

—o—

Liniment of Camphor

Is made by taking camphor one ounce, olive oil two ounces.

It is used as a stimulating embrocation for deep seated inflammation, and for glandular swellings.

—o—

Compound of Liniment of Camphor.

Its component parts are, camphor one ounce, rectified spirits four ounces, aqua ammmonia two ounces, olive oil three ounces, vinegar three ounces; dissolve the camphor in spirits before mixing, then put all in a bottle and shake together; use the same as liniment of camphor; it is more active.

—o—

Liniment of Cantharides.

Its parts: Cantharides, in powder, one ounce, olive oil eight ounces. Is used for blistering, and for sore throat or any external blister.

—o—

Liniment of Croton Oil

Is made of croton oil one-half ounce, oil of turpentine six ounces, soft soap six ounces. This is a very powerful external blister and dissolvent.

—o—

Liniment of Iodine

Is composed of iodine one ounce, iodide of potassium one-half ounce, camphor one ounce, rectified spirit eleven ounces, soft soap six ounces; use as a stimulant and dissolvent for enlarged glands; is to be applied with the hand and rubbed well in.

—o—

Liniment of Opium

Is composed of opium one ounce, soft soap three ounces, rectified spirit four ounces, camphor one ounce; used as an anodyne to local pains and sprains, and in rheumatism; apply with the hand and rub well in.

—o—

Liniment of Soap

Is made by taking soft soap three ounces, camphor gum one and one-half ounces, oil of turpentine eight ounces, origanum oil two ounces: used

as a stimulant and anodyne after local inflammation, and applied to sprains, bruises, tumors and sore throat.

——o——

Liniment of Turpentine

Is made by taking oil of turpentine eight ounces, soft soap four ounces, camphor one ounce, proof spirits six ounces. Dissolve the camphor in the spirit, then add the others together and shake well. Used same as liniment of soap.

——o——

Liniment of Carbolic Acid

To make, take carbolic acid one ounce, and water 20 ounces, and shake well together; used as a lotion for extensive wounds, and to prevent the decomposition of any blood that may accumulate after the wound has been sewn up; also for scratches and farcy ulcers.

——o——

Liniment of Linseed Oil.

Take of linseed oil one pint, whale oil six ounces, oil of tar three ounces, and shake well together.

Is used for dry hoofs or inflammation in the feet, and for contracted feet.

——o——

Lotion of Nitrate of Silver.

Take nitrate of silver three grains, and distilled water one ounce; used as an excitant to

wounds ; also one or two drops of the solution mixed with equal bulk of water, is sometimes dropped in the eye to remove opacity of the cornea.

—o—

Lotion of Laudanum.

Take of laudanum one ounce, and sulphate of zinc two grains, and shake well ; used as a lotion for the eyes where there is white film over them, or when they have been struck with a whip ; also for inflammation of the eyes ; to be injected in the eye once a day.

—o—

Lotion of Vinegar

Is composed of vinegar six ounces, proof spirit four ounces, water four ounces, shaken together. Is used for inflammatory swellings and to abate external inflammation.

—o—

Linseed Oil

Is used internally as a cathartic and emollient, and is given in cases of intestinal irritability, as in constipation of the bowels, or in troublesome cough.

The dose for the horse is one to two pints once a day ; for cough it may be sprinkled over the feed ; for external use see Liniments.

—o—

Mercury

Is used as a tonic ; it is given after a long run of fever ; or for glanders, farcy or dropsy.

The dose for a horse is two to five grains ; it is given with gentian and ginger, made into a powder and sprinkled over the feed once a day.

—o—

Myrrh

Is used internally as a stimulant and tonic ; is given in dyspepsia and debility, and in cases of chronic cough.

The dose for the horse is two to four drachms ; given in the shape of a drench, mixed with ginger and given twice a day ; externally is an excitant and deodorizer to wounds. See Tinctures.

—o—

Mustard

Is used as a counter-irritant in the form of a poultice.

Is prepared of one-half pound of mustard and one gill of vinegar, heated hot and mixed well together and spread on a cloth or plaster, and applied to whatever part the counter irritant is required on.

—o—

Nitric Acid

Is used externally as a caustic for the removal of warts and fungus growths and in canker, and for destroying the fetor of unhealthy wounds.

Its mode of application is by means of a pledget of tow tied to a stick and saturated with the acid diluted, four drachms of the acid to one pint of water, and applied to the roots of warts and fungus growths once a day; for canker or thrush in horses' feet the mixture of four ounces of tar and one ounce of the acid, is to be applied to the diseased part; two or three applications are enough.

——o——

Nitrate of Silver

Is used externally as a stimulant, astringent and caustic for the improvement of indolent sores, mange or ringworm; or for the removal of warts or fungus growths; it is also used for the cure of bites of rabid animals.

It is applied in the form of a stick to sores and fungus growths; probe the wounds of a bite and merely touch its parts with the caustic; a few times is all that is required.

——o——

Nux Vomica

Is used as a nervous stimulant in partial and general paralysis.

The dose for a horse is twenty to forty grains once a day, dissolved in hot water, given in one pint of ale. For the tincture, see Tinctures.

——o——

Nitrate of Potash

Is used internally as a diuretic, febrifuge and refrigerant.

The dose is four to eight drachms, given with ginger and gentian, four drachms of each, and to be sprinkled in the feed twice a day.

—o—

Oil of Anise

Is used for flavoring medicines, especially those of an aromatic nature.

The dose is thirty to forty drops twice a day.

—o—

Oil of Juniper

Is a stomachic and diuretic.

The dose is one to two drachms twice a day in other diuretics, or given in mucilaginous drinks.

—o—

Olive Oil

Is used in the form of liniment, ointment and blisters. See Ointments, Blisters and Liniments.

—o—

Oil of Turpentine

Is used internally as an astringent, stimulant and cathartic ; and externally as a counter-irritant, stimulant and digestive.

The dose is one to two ounces, given twice a day in linseed oil ; or in other oils. Externally, see Liniments.

Opium

Is a stimulant, sedative, narcotic, anodyne and anti-spasmodic. Is given in diarrhoea, inflammation of the bowels, pneumonia, rheumatism and tetanus, and many other maladies. Is used externally as an anodyne, and in superficial inflammation of the eye, skin or joints.

The dose is one to two drachms, given twice a day, dissolved in water; it may be given alone with one-half pint of water, or combined with ginger, gentian and spirits of nitre. For external use see Liniment of Opium.

—o—

Oak Bark

Is used as an astringent and tonic to arrest diarrhoea, dysentery, and similar discharges. Also externally as an astringent, and for stimulating unhealthy wounds, and to reduce superficial enlargements.

The dose is one to six drachms once a day of the powdered bark, mixed with gruel. Externally is used in the form of decoction, applying it warm to the affected parts three or four times a day.

—o—

Ointment of Carbolic Acid

Is composed of carbolic acid one ounce, and prepared lard six ounces, mixed well together. Is used for unhealthy wounds; grease the parts affected twice a day.

Ointment of Aconite

Is made of extract of aconite two ounces, and prepared lard three ounces, mixed well together.

Its use is an anodyne to be applied to painful sores, as sprains, ringbones and curbs, and after the application of blisters and firing ; merely grease the place affected.

—o—

Ointment of Tartar Emetic

Is made of tartar emetic two ounces, and prepared lard four ounces, mixed well together.

It is used as a counter irritant to the chest and joints, and to any glandluar enlargement ; to be rubbed well in with the hand once a day.

—o—

Ointment of Nitrate of Silver.

Take of nitrate of silver, in fine powder, eleven grains, and of prepared lard one ounce, and mix well together.

Is used for chronic opthalmia ; a piece the size of a pea is placed between the eyelids every three days.

—o—

Ointment of Cantharides

Is composed of cantharides, in powder, one ounce, prepared lard six ounces, and euphorbium four drachms, mixed well together.

Is used as an irritant to keep blisters open, and

to keep up the discharge of setons and rowells; to be applied with the hand and rubbed well in.

—o—

Ointment of Mercury.

To make this ointment take of mercury one pound, prepared lard one pound, and prepared suet two ounces. Rub them well together until globules cease to be visible, when it will be fit for use.

Is used for mange and other scurfy affections, and as a resolvent in glandular enlargements, as bog spavins and thoroughpins; to be applied with with friction.

—o—

Compound Ointment of Mercury.

Take ointment of mercury two ounces, and soft soap four ounces, and mix well together.

Is used for a stimulant and counter irritant; also a resolvent; to be applied with the hand and rubbed well in.

—o—

Ointment of Red Iodide of Mercury

Is made of red iodide of mercury one ounce, and prepared lard six ounces, mixed well together.

Is used for the treatment of spavins, ringbones, splints and enlarged burses; to be rubbed in with the hand once a day for three days, then wash off and grease every other day till the scab comes off. If the lameness remains apply as before.

Ointment of Bi Chloride of Mercury.

Take of bi chloride of mercury one ounce, and prepared lard two ounces, and mix well together.

Is used for the removal of bony tumors; to be applied with friction and rubbed well in with the hand.

—o—

Ointment of Iodine

Is composed of iodine crystals one ounce, iodide of potassium one ounce, and prepared lard seven ounces, mixed well together.

Is used for the removal of tumors, spavins, ring-bones, splints and other enlargements; to be applied with the hand and rubbed well in for three days, then wash off and grease. After the scab comes off apply as before till the bunch is removed.

—o—

Ointment of Turpentine

Is made of venice turpentine two ounces, and bar soap, in shavings, four ounces, mixed well together.

Is used spread on tow and applied to wounds and ulcers for the purpose of drawing the tumor to a head.

—o—

Ointment for Digestive.

To make this ointment take of brown soap three ounces, brown sugar two ounces, lime, in fine

powder, one ounce, and venice turpentine three ounces, mixed well together.

To be used for sores and wounds for the purpose of drawing them to a head ; to be applied on tow and laid on the sore and bandaged.

—o—

Ointment of Snuff

Is made of Scotch snuff four ounces, prepared lard six ounces, and kerosene oil three ounces, mixed well together.

Is used to destroy lice on horses ; should be rubbed on the skin in lines across it.

—o—

Ointment, Green

Is composed of the following : Prepared lard two pounds, tincture of iodine three ounces, cantharides in powder two ounces, bi chloride of mercury four drachms, mercurial ointment five ounces, euphorbium one ounce, croton oil eighty drops, mixed well together.

Is used for spavins, ringbones, splint and sore throat, and is rubbed around the top of the hoof for the cure of inflammation of the feet, and thickened glands and old callouses ; should be rubbed in with the hand at night, and in the morning rub the place where the ointment was applied until water runs out of the skin ; next day wash off and grease ; after the scab comes off if there is

any lameness, or the callous is yet there, apply as before.

—o—

Poultices of Linseed

Are used to soften indolent ulcers and stimulate them when it is desired to allay pain.

It is made of linseed meal six ounces, and boiling water eleven ounces, mixed gradually together, and applied in a thin cloth or bag.

—o—

Poultice of Charcoal

Is made of wood charcoal, in powder, two ounces, bran four ounces, boiling water six ounces, mixed well together.

Is applied as linseed for the purpose of destroying the fetor of foul ulcers.

—o—

Poultice of Bran

Is made of bran six ounces, onions, in thin slices, six ounces, boiling water eight ounces, mixed well together.

Is used as an emollient to the part to which it is applied ; it allays pain and inflammation in the same manner as linseed poultice.

—o—

Pitch Plaster

Is composed of burgundy pitch twelve ounces, rosin one ounce, yellow wax one ounce, tar two

ounces ; melt together and keep constantly stirred.

Is used as an adhesive plaster for wounds, and for the support of fractured bones. (See mode of application in the treatment of fractures.)

—o—

Pimento

Is used as an aromatic, carminative and antispasmodic ; it is given in flatulency and in colic, and to disguise the flavor of different medicines.

The dose is two to four drachms twice a day.

—o—

Powders

Are used as a tonic, stimulant and carminative, as in cases of skin diseases and debility.

The dose is one to two tablespoonfuls twice a day in four quarts of scalded bran, well stirred together. They are made as follows :

Nitrate of Potash	6 ounces.
Ginger	4 "
Aniseed	3 "
Black Antimony	1 "
Tartar Emetic	1 "
Gentian	2 "
White Sugar	6 "

To be mixed well together.

—o—

Pepper

Is used as a carminative and aromatic ; is given in indigestion, colic and flatulency.

The dose is one two drachms twice a day ; to be given in balls, or suspended in cold gruel.

—o—

Quinine

Is used as a tonic in intermittent and other fevers, loss of appetite and debility, and in acute rheumatism, and all acute complaints ; and during the exhaustion which follows influenza and other diseases.

The dose is twenty to forty grains once a day in one pint of ale.

—o—

Rosin

Is used as a diuretic. The dose is four to six drachms given twice a day in the form of balls, or in powder, sprinkled over the feed.

—o—

Sulphuric Acid

Is used internally as a tonic and for influenza, or cough. Externally is used as a caustic for the removal of warts by applying it to their roots.

The dose is twenty drops in four quarts of water, to be given once a day.

—o—

Sulphate of Copper

Is used as an astringent and tonic ; it is given in debility, obstinate diarrhoea, glanders and farcy.

The dose is one to two drachms twice a day mixed with ginger, four drachms, gentian four drachms; given in hot bran mash.

—o—

Sulphate of Magnesia

Is used as a cathartic and diuretic; also as a purgative combined with ginger and gentian.

The dose is one-half pound once a day dissolved in hot water.

—o—

Spirits of Nitre

Are used as a stimulant, diuretic and diaphoretic; are given in colic, indigestion, tympanites, and in stoppage of water.

The dose is one to three ounces, given with one ounce of laudanum and half a pint of water; given twice a day.

—o—

Spirits of Camphor

Are prepared with camphor one ounce, and rectified spirits four ounces, dissolved.

Are used externally as a stimulant, anodyne and discutient.

—o—

Strychnia

Is used as a stimulant and in paralysis.

The dose is one to two grains once a day in half a pint of ale or half a pint of cold water.

Sulphur

Is used internally as an alterative in rheumatism, and in all diseases of the skin.

The dose is one half to one ounce twice a day in the form of powders, or mixed with gruel.

—o—

Sulphate of Zinc

Is used externally as an astringent and excitant; when applied to wounds is injected into the sinuses; it is also used in quittor.

Half ounce of the salt should be dissolved in four ounces of water.

—o—

Treacle

Is used as a laxative and in forming balls, and to promote the activity of cathartics; also a vehicle for medicines having a disagreeable flavor.

The dose is one to two pounds.

—o—

Tincture of Aconite

Is prepared by taking of aconite two ounces, and rectified spirit one pint. Macerate for twenty-four hours and agitate occasionally.

The dose for a horse is twenty to twenty-five drops three or four times a day in four quarts of cold water.

Is used for inflammation of the lungs, or in any disease except inflammation of the brain and palsy.

—o—

Tincture of Aloes

Is prepared as follows: Barbadoes aloes ten drachms, myrrh five drachms, rectified spirit fourteen ounces, water six ounces, macerate for fourteen days and shake frequently.

Is used externally as an excitant to wounds and obstinate ulcers.

—o—

Tincture of Cantharides.

Four drachms of cantharides in powder in one pint of proof spirit, macerate for four days and shake frequently.

Is used as a counter irritant for sore throat and inflammation of the larnyx.

—o—

Tincture of Cantharides, Strong.

Take of cantharides in powder one ounce, and proof spirit one pint, macerate for four days and shake frequently.

Is used as a counter irritant and as a blister.

—o—

Tincture of Cantharides, very Strong.

Take of cantharides whole one ounce, proof spirit one pint; macerate for four days with occasional agitation.

Is used as a counter irritant and stimulant in rheumatism, sore throat and sprains; merely dampen the skin with the liquid.

——o——

Tincture of Iodine.

Take of iodine one and one-half ounces, iodide of potassium one ounce, proof spirit one pint; macerate for seven days with occasional agitation.

Is used externally as a resolvent for the cure of splints, ringbones and spavins; and is also injected into poll evil, fistula, etc.

——o——

Tincture of Myrrh

Is made of myrrh in coarse powder two ounces, rectified spirit one pint; macerate for four days with occasional agitation.

Is used externally for wounds; also as an excitant to foul and indolent ulcers, and for canker in the mouth.

——o——

Tincture of Nux Vomica.

Take of nux vomica two ounces, rectified spirit one pint, and macerate for seven days with occasional agitation; use as a stimulant and tonic in paralysis.

The dose for the horse is four drachms once a day in one pint of ale.

Tincture of Opium

Is prepared by mixing opium in coarse powder one and one-half ounce, proof spirit one pint, and macerate for seven days with occasional agitation; use as an anodyne.

The dose is one to two ounces twice a day in other medicines, or given with half a pint of warm water, or in gruel.

—o—

Tincture of Ginger.

Take of ginger root three ounces, rectified spirit one pint, and macerate for four days with occasional agitation; use as a carminative and tonic.

The dose for the horse is one to two ounces, to be given twice a day.

—o—

Vinegar

Is used internally as an astringent and diuretic, and for calculi in the urinary deposits. Externally, as a lotion for application to swellings where there is much inflammation.

The dose is six to ten ounces twice a day, given with other purgatives, or with half a pint of water, with one ounce of laudanum added. For external use take six ounces of vinegar, three ounces of spirits of wine; to be applied to the parts affected twice a day.

—o—

Yellow Cinchona Bark

Is used internally as a tonic and astringent; is given in debility and in intermittent diseases, in enlargements and induration of the absorbent glands; and after acute and lingering maladies.

The dose is one to four drachms once a day in one pint of ale.

ERRATUM.

On page 56, fifth line, after the words "and give," insert the words "One tablespoonful of."

A NEW TREATISE

—ON—

THE DISEASES AND LAMENESS

—OF THE—

HORSE,

—AND—

HOW TO CURE THEM.

ALSO,

The Proper Method of Shoeing Horses,

—AND A—

Complete List of Veterinary Medicines.

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